

Mt. Sam'l Smith

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ADVERTISEMENT.

AS the American Review is designed to comprise every serial publication in every branch of literature and science, as well as American editions of European publications, this design cannot be fully accomplished without the attention of authors and publishers in transmitting, as early as possible, copies of their works to the publishers of the Review.

The advantage of having their productions and publications thus made known throughout the United States, it is presumed will be a sufficient inducement for them to attend to this request. It is meant that this department should occupy the distinguished place due to its superior importance; and it will receive the most liberal, candid, and faithful attention.

The LITERARY JOURNAL is intended to comprehend,

1. ORIGINAL ESSAYS, on moral, literary, and scientific subjects. So respectable a repository as the one here offered, it is hoped, will induce persons of leisure and ability to make frequent contributions to this department. The Editors will be scrupulous in the selection of such pieces only as are distinguished for some originality of sentiment or excellence of manner, or for the value of the opinions they contain, and which, while they may reflect credit on the writers, will add to the reputation and respectability of the work. But whether this department and the succeeding one will be filled or not with domestic materials, must depend on the nature and number of the contributions.

2. BIOGRAPHICAL MEMOIRS and ANECDOTES of remarkable and eminent persons, particularly in America.—This ample field of the most useful branch of human knowledge, that of individual man, has hitherto been wholly neglected in America; though no country, in proportion to its population, has been more productive of those self-created characters, who have emerged by their own native energies from narrow and obscure conditions, to eminence and usefulness; characters, the steady and active tenor of whose lives afford the best and most instructive examples of genuine virtue, and useful talents, exerted for the happiness of society. It is from the portraits of such men, that the youth of America should learn the road to true greatness; and to distinguish the glory which surrounds the name of WASHINGTON, from the illusive meteors which excite wonder while they terrify and alarm, and disturb the repose and happiness of mankind.

It is hoped that those whose situation and knowledge enable them to contribute to this department, will not be backward in communicating the information they possess, be it little or great. A few instances and facts from a variety of hands, may enable the future biographer to complete the portrait; and, if not thus preserved, are likely to be wholly lost, through forgetfulness or the influence of time. Numerous public and private characters ought not to be suffered to pass into oblivion, or to be left to the imperfect and partial record of the general historian.

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ARTICLE I.

The Medical Repository. Conducted by Samuel L. Mitchill, M. D. Professor of Chemistry in Columbia College, &c. and Edward Miller, M. D. Vol. iii. pp. 428. New-York. T. & J. Swords, 1800.

IN perusing this continuation of the work, of which a pretty full account was given in two former numbers, we find no occasion to abate the terms of respect in which we spoke of the preceding volumes. The solid merit, and the well-founded claims to public patronage, which were before noticed, appear undiminished in the pages now under consideration.

This volume contains the following papers on *pestilential diseases*:

1. *A dissertation on the bilious malignant fever which prevailed in the country adjacent to Dartmouth College, in the summer of 1798. Read before a private medical society at Dartmouth College, Dec. 12, 1798. By Lyman Spalding, M. B. Lecturer on Chemistry and Materia Medica in Dartmouth College.*
2. *Observations on the yellow fever, as it appeared at Wilmington (Delaware) in the summer and autumn of 1798: Communicated in a letter from James Tilton, M. D. President of the Medical Society of Delaware, to Dr. Miller.*
3. *Remarks on the epidemic of the summer and autumn of 1798, at Wilmington: Communicated in a letter from George Monro, M. D. to Dr. Miller.*

4. *A short account of an epidemic yellow fever, which prevailed in the autumn of 1798, in the village of Port-Elizabeth, New-Jersey: Communicated in a letter from Dr. George Lee to Dr. Mitchill.*
5. *Brief remarks on the origin of the yellow fever in some parts of the State of Rhode-Island, drawn up by Moses Brown, Esq. of Providence.*
6. *Observations on the yellow fever: Communicated in a letter from Dr. Felix Pascalis to Dr. Mitchill.*
7. *On the disease called the lake-fever of the western counties of the State of New-York: In a letter from John W. Watkins, Esq. of Tioga, to Dr. Mitchill.*
8. *An account of the origin and cause of the yellow fever, as it appeared at Wilmington (Delaware) in the autumn of 1798: Communicated in a letter from Dr. Vaughan, of Wilmington, to Dr. Miller.*

These papers do not present, that we can discover, any new or original views of that dreadful scourge which has desolated so many parts of our country for the last ten years. But as correct opinions concerning this formidable disease must be founded on an extensive and accurate collation of facts, we think separate memoirs, of the kind now under consideration, are highly worthy of being recorded, and perused by the inquiring physician.—With respect to the grand question, whether yellow fever be of *foreign* or *domestic* origin, the writers of these papers are not agreed. Dr. Spalding, Dr. Lee, Dr. Pascalis, Mr. Watkins and Mr. Brown, are decidedly of opinion that this disease, as it appeared in New-Hampshire, New-York, New-Jersey, Philadelphia and Rhode-Island, was generated from *domestic* sources; and they offer considerations in support of their opinion, which, it is presumed, will have much weight in the view of every impartial reader. On the other hand, Dr. Tilton and Dr. Monro believe the same disorder, as it prevailed in Wilmington, to have been *imported* into that place from Philadelphia.—It must be acknowledged, however, that the facts and reasonings of the latter gentlemen are by no means so cogent and convincing as those of the former; so that, if we were compelled to make up a judgment on the ground of what is here presented, we should be inclined to take side with the advocates of *domestic origin*. But “who shall decide when Doctors disagree?” If antiquity and precedence be of as much authority in medicine as in law, the doctrine of *domestic generation* must, in this case, be given up; since, with a very few modern exceptions, the

inhabitants of no country under heaven were ever yet willing to recognize pestilence as one of their native productions. Yet, if all their objections be admitted as valid, the consequence is obvious. Pestilence will be allowed to have no country, and must, of course, be voted out of existence! It was to have been expected that a question so important, so much controverted, and so open to investigation, would have been unequivocally settled long ago. Were it a point, indeed, of mere speculative curiosity, we should be as little solicitous to hear of its final solution, as of the controversy between the *big-endians* and *little-endians* in *Lilliput*; but it is a question of practical moment, and yields only in the importance of its relations to that respecting methods of cure.

The next class of papers in the present volume, of which we shall take notice, are those which relate to miscellaneous medical subjects.—They are the following:

1. *Case of tetanus cured by wine: Communicated in a letter to Dr. James Gregory, Professor of the Practice of Physic in the University of Edinburgh, by Dr. David Hosack, Professor of Botany, &c. in Columbia College.*
2. *A Medical case, drawn up by Mr. Berrington, of Great-Britain: Communicated by Dr. Priestley.*
3. *Two cases of the human Constitution being affected by the contagion of small-pox and measles at the same time: In a letter from Dr. Philemon Tracy to Dr. Mitchill.*
4. *An account of diseases prevalent at Londonderry in the years 1797 and 1798: Communicated in a letter from Dr. William Patterson to Dr. Miller.*
5. *Case of the deleterious effects of opium remedied by the excitement of pain: By Valentine Seaman, M.D.*
6. *A sketch of the history of the diseases of the State of Delaware: Communicated in a letter from Dr. John Vaughan, of Wilmington, to Dr. Miller.*
7. *On the internal use of saccharum saturni (acetate of lead) in Diarrhœa: In a letter to John Claiborne, M.D. of Virginia, by John Archer, M.D. of Maryland.*
8. *Septic acid the cause of the mortality among the neat cattle and horses of Canada, during their stabling in winter: In a letter from Mr. Blanchet, of Canada.*
9. *Observations on the disease commonly called yellow water in horses: In a letter from the late Dr. F.B. Sayre to Dr. Barton.*

10. *Singular case of dropsy: Communicated in a letter from Dr. Charles Smith, of New-Brunswick (N. J.), to Dr. J. R. B. Rodgers, Professor of Midwifery, &c, in Columbia College.*
11. *An account of febrile diseases, as they have appeared in the county of Cumberland, District of Maine, from July, 1798, to March, 1800: Communicated in a letter from Dr. Jeremiah Barker, of Portland, to Dr. Mitchill.*

These papers, like those of the same class in the former volumes, are of different relative value. Those drawn up by Mr. Berrington, Dr. Tracey and Dr. Smith, appear to be the most curious and interesting; but they are all worthy of attention.

The *chemical* communications in this volume are seven in number:

1. *Observations on pot-ash: In a letter from Dr. Mitchill to Dr. Priestley.*

The opinions conveyed in this letter form a part of Professor Mitchill's new doctrines concerning *septic acid*, and the efficacy of pot-ash in neutralizing and destroying its virulence. In this communication the usual ingenuity and learning of the Professor are abundantly displayed.

2. *Remarks on the constitution of nitrous air (septic gas), from an anonymous correspondent: Addressed to Professor Mitchill.*

This writer supposes that nitrous air is formed by the *chemical union* of nitrogen gas with oxygen. This opinion he supports with considerable ability.

3. *On the evaporation of water during congelation: Communicated in a letter from Stephen Dickson, M. D. to Dr. Mitchill.*

Dr. Dickson thinks that Dr. Black's mode of accounting for the expansion of water during congelation, viz. that the latent heat, set loose at the moment of the water being converted into ice, enters into the air contiguous to, or combined with the water, and expands it with great force—is insufficient to account for the phenomenon. He rather supposes, that the latent heat thus set loose converts part of the water which is undergoing the process of congelation into vapour, and that this vapour produces the violent expansive force which takes place in such instances.

4. *Dr. Priestley's reply to his antiphlogistian opponents.*

This reply consists of three letters, in which Dr. Priestley, having on former occasions advanced all that appeared to him important in defence of the doctrine of *phlogiston*, undertakes to discuss the answers of his opponents. Though we can by no means embrace some of the chemical opinions which this veteran in science here endeavours to defend, yet we cannot help admiring the force of reasoning, the ingenuity, and the urbanity of manner, with which he meets his opponents. We are even tempted to suspect that some parts of the antiphlogistic fabric will scarcely be able to stand against his artillery.

5. *A letter from John Maclean, M.D. Professor of Mathematics and Natural Philosophy in the College of New-Jersey, in answer to one addressed to him by James Woodhouse, M.D. Professor of Chemistry in the University of Pennsylvania.*

In the discussion of chemical principles which took place between Dr. Priestley and Professor Maclean, the latter expressed some opinions, and mentioned certain experiments, which Professor Woodhouse, though holding, in general, the same chemical creed, judged to be indefensible. These Dr. Woodhouse thought proper to animadvert upon, through the medium of the Medical Repository, and in terms of considerable severity. The present letter is Dr. Maclean's reply. It is spirited and sensible. On the accuracy of his experiments and the justness of his conclusions we shall not undertake to decide.

6. *Facts and remarks on the antiseptic powers of lixivial and oleaginous substances: Communicated by Mr. F. Blanchet to Dr. Mitchill.*

Mr. Blanchet seems to agree with Professor Mitchill in his doctrine concerning septic acid, and exhibits, in this letter, facts and reasonings designed to elucidate and confirm it.

7. *Remarks on crystallization: By Mr. Thomas P. Smith.*

In these remarks Mr. Smith opposes the theories of crystallization by De Lisle and Hauy, but without proposing any of his own.

This volume contains the following papers on different subjects in *natural history*.

1. *Description of the city of Lisbon, &c. In a letter from Mr. Costa to Dr. Mitchill.*

This letter is designed to support Professor Mitchill's doctrine of the efficacy of *alkalies* and *lime* to destroy pestilence.

2. *Observations on meteorological instruments, and on the weather at Londonderry in the year 1797: By William*

Patterson, M. D. Communicated in a letter to Dr. Miller.

3. *Geological remarks: By Mr. Thomas P. Smith.*
4. *Remarks on the vapour which arises from the surface of the River St. Lawrence during the severe cold of winter: In a letter from Mr. Blanchet, of Quebec, to Dr. Mitchill.*
5. *Speculations concerning the perspirable fluids of human bodies: In a letter from Dr. Mitchill to Andrew Duncan, M. D. of Edinburgh.*
6. *On the submersion of swallows: From an anonymous correspondent.*
7. *Theory of explosions: By Mr. F. Blanchet.*
8. *A Sketch of the mineralogical history of the State of New-York: By Samuel L. Mitchill.*

These papers are all ingenious, and worthy of attention. We are pleased to see so much learning, and accuracy of investigation, displayed on some interesting departments of natural history.

There yet remain to be considered two more papers under the class of original communications; but we are so much at a loss to know under what head of *medicine* or *medical philosophy* they ought to be thrown, that our readers will excuse us for giving them no general title. We refer to,

1. *Remarks on the economy of fuel in the warming of rooms: Communicated in a letter from Simeon De Witt, Esq. Surveyor-General of the State of New-York, to Dr. Mitchill: and,*
2. *Description of a cabinet of coins and medals, ancient and modern: By John C. Kunze, S.S. T. D. &c. in a letter to Dr. Mitchill.*

Though both these communications are highly respectable, and do honour to the talents and the industry of their respective authors, we could not help smiling at their introduction into such a work as the *Medical Repository*. Even under the enlarged and liberal plan which the editors of this valuable publication have marked out for themselves, we were surprized to find them extending their notice to objects of such a nature. Had there been discoverable any thing like a dearth of materials to furnish out the requisite number of pages, our surprise had been less; but amidst stores apparently so rich and excellent, we think the space occupied by these papers might have been, at least, more congruously and characteristically filled. The same remarks apply to some of the articles under

the head of *News*. What connection the editors could discover between a collection of portraits by Mr. Sharpless—a translation of the Duc de Liancourt's travels—a chart of Lower Canada—or a patent for diminishing friction in machines by means of lead—and the science of medicine, and the auxiliary branches of philosophy, we do not very well know. There are, indeed, points of connection between all the departments of human knowledge; yet, when an author professes to treat of chemistry or mineralogy, we do not expect to find him invading the province of the watch-maker or the naval architect.

We have been, in general, so well pleased with this work, and consider the editors as having so much reason to take honour to themselves for the manner in which they have conducted it, that we presume they will allow us, in this instance, without grudging, to make a little mirth at their expense. We can assure them that our grave faces have seldom relaxed into a smile with more perfect good humour than on the present occasion.

The department of *Review* in this volume is not less extensive or less interesting than in the former. The following works are reviewed:

1. *Rapport fait aux Citoyens Victor Hugues et Lebas, Agens particuliers du Directoire Executif aux Isles du Vent, par la Commission établie en vertu de leur Arrêté du 12^eme Vendémiaire, l'an 6^eme de la République (Oct. 3, 1797), pour examiner la Situation du Volcan de la Guadaloupe et les Effets de l'Eruption, qui a eu lieu dans la nuit du 7 et 8 du même mois (Sept. 28 and 29).*
2. *Vade-mecum Medicum, in duas Partes divisum, quartum prior, Nosologiam Cullinæam, posterior Compendium Materiæ Medicæ et Pharmacopæiæ, exhibet, &c. &c. Auctore Gulielmo Tazewell, M. D. Varginiense.*
3. *A Semi-annual Oration on the Origin of Pestilential Diseases, delivered before the Academy of Medicine of Philadelphia, on the 17th day of December, 1798. By Charles Caldwell, A. M. M. D. Senior Vice-President of the Academy.*
4. *De Culturâ Rudicis Brazilicæ; de Curâ Boum in Brazilia; et de Culturâ Herbæ Nicotianæ in Brazilia, Poemata Georgica: quibus adjicitur Prudentii Amaralii Braziliensis de Sacchæ Opificiò Carmen, &c.*
5. *Fragments of the Natural History of Pennsylvania. By Benjamin Smith Barton, M. D. Correspondent Mem-*

- ber of the Society of the Antiquaries of Scotland, &c. &c.
Part First.
6. *Three Lectures upon Animal Life, delivered in the University of Pennsylvania. By Benjamin Rush, M. D. &c.*
 7. *Occasional Reflections on the Operation of the Small-Pox; or the Traveller's Pocket-Doctor. By Joseph Hamilton, Physician.*
 8. *A new Nomenclature of Chemistry, proposed by Messrs. De Morveau, Lavoisier, Berthollet and Fourcroy, with Additions and Improvements. By Lyman Spalding, M. B. Lecturer in Chemistry in Dartmouth University.*
 9. *Notes on Husbandry and Rural Affairs. By J. B. Bordley.*
 10. *A brief History of Epidemic and Pestilential Diseases; with the principal Phenomena of the Physical World, which precede and accompany them, and Observations deduced from the Facts stated. In two Volumes. By Noah Webster.*
 11. *History of the Pestilence commonly called Yellow Fever, which almost desolated Philadelphia in the Months of August, September and October, 1798. By Thomas Condie and Richard Folwell.*
 12. *An Account of the Malignant Fever lately prevalent in the City of New-York (in 1798). By James Hardie, A. M.*
 13. *A short Account of the Yellow Fever, as it appeared in New-London, in August, September and October, 1798, with an accurate List of those who died of the Disease, the Donations, &c. &c. By Charles Holt.*
 14. *Report of the Committee appointed by the Medical Society of the State of New-York, to inquire into the Symptoms, Origin, Cause and Prevention of the Pestilential Disease that prevailed in New-York during the Summer and Autumn of the Year 1798.*
 15. *Observations upon the Origin of the Malignant Bilious, or Yellow Fever, in Philadelphia, and upon the Means of preventing it: addressed to the Citizens of Philadelphia. By Benjamin Rush.*
 16. *A second Address to the Citizens of Philadelphia, containing Additional Proofs of the Domestic Origin of the Malignant Bilious or Yellow Fever: to which are added, Observations intended to show that a Belief in that Op-*

- nion is calculated to lessen the Mortality of the Disease, and to prevent its Recurrence. By Benjamin Rush.*
17. *An Inaugural Dissertation on the Principle of Animation; read and defended at a public Examination, before the Hon. John Wheelock, LL. D. President, and the Governors of Dartmouth College, for the Degree of Bachelor in Medicine, July 18, 1799. By Daniel Adams, A.B.*
18. *A Treatise on the Plague and Yellow Fever; with an Appendix, containing Histories of the Plague at Athens, &c. By James Tytler, Compiler of the Medical Part of the Encyclopædia Britannica.*
19. *The Doctrine of Phlogiston established, and that of the Composition of Water refuted. By Joseph Priestley, LL. D. F. R. S. &c. &c.*
20. *Transactions of the Society, instituted in the State of New-York, for the Promotion of Agriculture, Arts and Manufactures, Part iv.*
21. *A Sketch of the Rise and Progress of the Yellow Fever, and of the Proceedings of the Board of Health in Philadelphia, in the Year 1799: to which is added, a Collection of Facts and Observations respecting the Origin of the Yellow Fever in this Country, and a Review of the different Modes of treating it. By William Currie, Fellow of the College of Physicians, and Member of the American Philosophical Society, &c.*
22. *Chemical Syllabus. By John Vaughan, M. D.*

23. *The Midwives' Monitor and Mothers' Mirror: being three concluding Lectures of a Course of Instruction on Midwifery. Containing Directions for Pregnant Women; Rules for the Management of Natural Births, and for early discovering when the Aid of a Physician is necessary; and Cautions for Nurses respecting both the Mother and Child. To which is prefixed, a Syllabus of Lectures on that Subject. By Valentine Seaman, M. D. one of the Surgeons of the New-York Hospital, and Physician Extraordinary to the Lying-in Ward in the Alms-House.*

The departments of News and Appendix, as formerly, comprise a variety of amusing and instructive articles.

As we proceed in our examination of the successive volumes of this work, we find fresh occasion to repeat our respectful acknowledgments to the editors, for the zeal, the judgment, and the various abilities which they display in conducting it.

A periodical work, so rich in scientific instruction, with such a large proportion of original matter, and so long and uniformly continued, certainly never before appeared in America. May the medical and philosophical public of our country have wisdom enough to encourage its continuance and improvement!

ARTICLE II.

The Natural and Civil History of Vermont. By Samuel Williams, LL. D. &c. &c.

[Continued from page 279, and concluded.]

OUR author proceeds to detail the history of the settlement of Vermont. The French of Canada, and the English of Massachusetts, New-Hampshire, and New-York, made various advances into the uncultivated wilderness between Connecticut River and Lake Champlain. These gave birth to incompatible claims and pretensions, which furnished subject for disputes and misunderstandings, that were suspended, but not wholly extinguished, by the war of 1757, and by the revolutionary war.

The erection of the New-Hampshire grants into the independent State of Vermont, gave rise to controversy with New-York, which formerly claimed the sovereignty over them. This controversy is here detailed with tolerable perspicuity.

The following passages, in which the expedients made use of by the leading men of Vermont, to secure their country from the invasions of the British, will afford an amusing portrait of human nature, as well as be a suitable specimen of our author's talents at historical narration.

"From these contests respecting Vermont, the British generals and ministers conceived high expectations that they should be able to derive great advantages. Unacquainted with the feelings, the views, or the spirit of a people contending for freedom, they calculated upon the system of corruption; and had no doubt but they should find a people in Vermont that they could seduce from their attachment to the American cause, and unite to the British government. With this view they entered upon measures to persuade Vermont to become a British province.

"The wish and aim of the British General in New-York was first announced in a letter from Col. Beverly Robinson to Ethan Allen, at that time a Colonel in the American service. The letter was dated New-York, March 30, 1780, and delivered to Allen in the street at Arlington, in July, by a British soldier in the habit of an American farmer. In this letter Robinson began the business thus: 'I am now undertaking a task which I hope you will receive with the same good intention that inclines me to make it. I have often been informed that you, and most of the inhabitants of Vermont, are opposed to the wild and chimerical scheme of the Americans, in attempting to separate this continent from Great-Britain, and to establish an independent state of their own; and that you would willingly assist in uniting America again to Great-Britain, and restoring that happy constitution we have so wantonly and unadvisedly destroyed. If I have been rightly informed, and these should be your sentiments and inclination, I beg you will communicate to me, without reserve, whatever proposals you would wish to make to the commander in chief; and I hereby promise that I will faithfully lay them before him, according to your directions, and flatter myself I can do it to as good effect as any person whatever. I can make no proposals to you until I know your sentiments, but think, upon your taking an active part, and embodying the inhabitants of Vermont in favour of the crown of England, to act as the commander in chief shall direct, that you may obtain a separate government under the king and constitution of England, and the men, formed into regiments under such officers as you shall recommend, be on the same footing as all the provincial corps are. If you should think proper to send a friend of your own here, with proposals to the General, he shall be protected, and well treated here, and allowed to return whenever he pleases.'—On the receipt of this letter, Allen immediately communicated it to the Governor, and a number of the principal gentlemen in Vermont, who agreed in opinion, that it was most prudent not to return any answer, but to let the matter pass into oblivion.

"On February 2, 1781, Robinson wrote another letter to Allen, including a copy of the former, which he supposed had been miscarried, as he had not received any answer. In this he writes—'The frequent accounts we have had, for three months past, from your part of the country, confirms me in the opinion I had of your inclination to join the king's cause, and to assist in restoring America to her former peaceable and

happy constitution. This induces me to make another trial, in sending this to you; especially as I can now write with more authority, and assure you that you may obtain the terms mentioned in the above letter, provided you and the people of Vermont take a decisive and active part with us.'—He requests an answer, and that some method might be pointed out for carrying on a correspondence for the future; and information in what manner the people of Vermont could be the most serviceable to the British government, 'either by acting with the northern army, or to meet and join an army from New-York.'

"Allen returned no answer to either of these letters, but on March 9, 1781, inclosed them in a letter to Congress, informing them of all the circumstances which had attended the business. In his letter to that body he made several observations, justifying the conduct of Vermont, asserting her right to independence, and expressing his determinate resolution to do every thing in his power to establish it. Conscious of his own integrity, and sensible that his activity and sufferings in the cause of his country were known to all America, he wrote in this style: 'I am confident that Congress will not dispute my sincere attachment to the cause of my country, though I do not hesitate to say I am fully grounded in opinion, that Vermont has an indubitable right to agree on terms of a cessation of hostilities with Great-Britain, provided the United States persist in rejecting her application for a union with them: for Vermont, of all people, would be the most miserable, were she obliged to defend the independence of the United claiming States, and they, at the same time, at full liberty to overturn and ruin the independence of Vermont. I am persuaded, when Congress consider the circumstances of this State, they will be more surprized that I have transmitted them the inclosed letters, than that I have kept them in custody so long; for I am as resolutely determined to defend the independence of Vermont, as Congress are that of the United States; and, rather than fail, will retire, with hardy Green-Mountain boys, into the desolate caverns of the mountains, and wage war with human nature at large.'

"An event took place in the spring of the year 1780, which furnished the British with an opportunity to make a similar attempt from Canada. A number of men had been made prisoners in a descent which the British made upon Royalton in the month of May. Their friends applied to Governor Chittenden to send a flag into Canada, to negotiate

their release or exchange. The Governor complied with their request; and, in the month of July, a flag was sent, with a letter to the commanding officer in Canada. In the fall the British came up Lake Champlain in great force. The commanding officer brought a very favourable answer from General Haldimand to Governor Chittenden's letter; and sent a flag to Ethan Allen, then a Brigadier-General, and commanding officer in Vermont, proposing a cessation of hostilities with Vermont during a negociation for the exchange of prisoners. Allen agreed to the proposal, upon condition that it should extend to the adjacent frontiers of New-York. The British officer appeared to be unwilling to treat with any part of America but Vermont, but finally agreed to every thing which Allen proposed.

"Before the enemy retired into their winter quarters, Col. Ira Allen and Major Joseph Fay were appointed, by the Governor of Vermont, commissioners to negociate the proposed exchange of prisoners. They proceeded to treat with the British agents, Capt. J. Sherwood and George Smyth, on this subject. The British agents availed themselves of this opportunity to explain their views, to make their proposals, and to offer as complete an establishment for Vermont, from the royal authority, as should be desired. The commissioners from Vermont treated the proposals with affability and good humour; and though they avoided bringing any thing to a decision, the British concluded they were in a fair way to effect their purposes; and the campaign ended without any further hostilities to Vermont.

"The next year the British entered upon the business with high expectations of success, and it was the interest of Vermont not to undeceive them. New-York had withdrawn their troops from the post at Skeensborough; all the continental troops had been ordered out of the territory; and the adjacent States did not afford them any assistance. The people of Vermont were exposed to the whole force of the enemy in Canada, and had neither magazines, money, or an army, to oppose to the enemy at the northward, who were seven thousand strong. No way of safety remained for Vermont, but to endeavour to effect that by policy which could not be done by power. The cabinet council concluded that they were designedly forsaken by the continent, to force them into a submission to New-York, and that it was clarely their duty to provide for the safety of the people in the only way that remained, by managing the British attempts to corrupt them to their own advantage."

After some further particulars, the historian proceeds to comment on the wisdom and propriety of these proceedings in the following manner:

"Thus terminated a controversy which occasioned many and various conjectures at the time when it was carried on. On the part of the British it consisted of constant attempts and endeavours to persuade the leading men of Vermont to renounce their allegiance to the States of America, and become a British province. On the part of the gentlemen of Vermont, the correspondence consisted of evasive, ambiguous, general answers and proposals, calculated not to destroy the British hopes of seduction, but carefully avoiding any engagements or measures that could be construed to be an act of the government: and it had for its object a cessation of hostilities, at a time when the State of Vermont, deserted by the continent, and unable to defend herself, lay at the mercy of the enemy in Canada.

"Eight persons only in Vermont were in the secret of this correspondence. Each of them were known to be among the most confirmed friends to the American cause. They had avowed their sentiments, and embraced the cause of their country, from the beginning of the American war. They had suffered severely, often borne arms, and done every thing in their power to defend the independence of the States: and, through the whole of this correspondence, they gave the most decisive proofs that they could not be bought or bribed by any offers of wealth or honour.—But so odious were the British proceedings and government at that time to the people of America, that it was with difficulty the people of Vermont could be kept quiet, under the idea of a correspondence carried on with the British, though known to be designed for their protection. Once or twice there were small insurrections to demand explanations: and nothing but the well known and strong attachment of the gentlemen concerned, to the independence of Vermont and of America, could have preserved them from open violence and destruction.

"It may be doubted how far such a measure was justifiable, in that, or in any other state of things. On the one hand, it may be said, when the safety of all America was in question, and in much danger, nothing ought to have been done to encourage the enemy that they should be able to divide, and thus subdue the continent. On the other hand, it may be urged, that when thirty thousand people were deserted by the

Congress, and become the objects of the intrigues and policy of the adjacent States, it was as justifiable and necessary for them to provide for their safety, as it was for the rest of the continent.—If there was no other alternative for the people of Vermont than to be divided, subdued, and delivered over to the power of their ancient enemies, their leaders will not be blamed for taking necessary and adequate measures to prevent such an evil. In such a situation, it was scarcely possible for the people of Vermont to believe that they could be under any moral obligation to sacrifice themselves, to procure independence for those who, by the act of their representatives, had rejected them from their confederation.

"But whatever may be thought respecting the propriety of such policy, the event showed that the gentlemen of Vermont had formed a sound judgment with regard to the effect. Flattered with the prospect, that they should draw off a considerable part of the continent to their government and measures, the British carefully avoided all hostilities against Vermont, restored her prisoners, forbade their troops to enter or attack her territory, and considered the people rather in the light of friends than enemies. Thus, while the British Generals were fondly imagining that they were deceiving, corrupting, and seducing the people of Vermont, by their superior arts, address and intrigues, the wiser policy of eight honest farmers, in the most uncultivated part of America, disarmed their northern troops, kept them quiet and inoffensive during three campaigns, assisted in subduing Cornwallis, protected the northern frontiers, and finally saved a State."

We are next presented with a minute detail of the controversies respecting limits and jurisdictions with the States of New-Hampshire and New-York. We shall quote the reflections of the historian upon these events:

"The violence and duration of the controversies, in which Vermont was so long engaged, proved unfavourable to the state of society in that, and in the adjacent States. During the first part of their contest with New-York, there was not any settled form of government in Vermont. The people transacted their business by the meetings of towns and plantations—by committees, leaders, and officers, appointed and submitted to by general consent. The opposition to New-York was one continued scene of violence, and the minds of the settlers were constantly agitated by the most uncomfortable passions: but a general fear of the final issue prevented both parties from proceeding to bloodshed. But in one instance was there any

person slain in this quarrel. In March, 1775, during the session of a court holden under the authority of New-York at Westminster, one man was shot through the body in the court-house. But it gave such a general alarm, that both parties were more cautious to avoid the extremes of irregularity. In this stage of the controversy, the settlement of the country was much prevented by the contrary claims which subsisted, and the violences they produced.—In the latter part of the year 1781, the controversy with New-Hampshire bore a very serious aspect. Chesterfield, in that State, was one of the towns which had joined with Vermont; but some of the inhabitants still adhered to the jurisdiction of New-Hampshire. A constable, under the authority of Vermont, went to serve a writ upon one of the inhabitants of that town. His authority was denied, and an officer, under the authority of New-Hampshire, interposed. In the course of the contest, the New-Hampshire officer, with one or two of his adherents, were imprisoned by the officer from Vermont. Orders were given by the government of New-Hampshire to raise the *posse comitatus*, and liberate the imprisoned sheriff by force. The Governor and Council of Vermont sent three agents to Exeter, to endeavour to compromise the matter with the government of New-Hampshire. One of these was a sheriff of Vermont. By way of retaliation he was immediately imprisoned at Exeter. Alarmed with this approach to hostilities, both governments were obliged to interpose, to prevent more violent measures, which threatened to break out into a civil war.—In 1784, the Secretary of Vermont was arrested in the city of New-York, on account of his political conduct in Vermont. The matter being laid before the General Assembly of the State, they unanimously resolved that such lands in the territory of Vermont, as belonged to the citizens of New-York, should be sold, until money enough was raised from their sales, to make full restitution to their secretary for all the charges and damages which might accrue from his arrest in New-York.

"These violences were unfavourable to the settlement of the country; they tended to keep the minds of the people in a state of irritation; and had an ill effect on the state of society. But it is worthy of remark how extremely unwilling the people of America were to proceed to war with one another. In their highest state of provocation and resentment, they abhorred the idea of killing and slaughtering each other. Unused to the practices of rebellion, murder and assassination,

when they were exasperated with the highest sense of injuries, they had no intention or idea of kindling a civil war in their country, of destroying those who opposed them, or of staining the American system of freedom with blood and slaughter. So far from this, that amidst a violent opposition to one another, they were all agreed that the war should be carried on with unceasing vigour against Great-Britain, but that no other war should be permitted to exist in the country.

"But although all parties had cautiously avoided enkindling a civil war in their country, they had been hurried into great mistakes and errors. The people of Vermont had no idea of opposing the government of New-York, until the Governor and Council of that province had proceeded to make new grants of their lands, which they had bought under the royal grants, and subdued by extreme labour and hardship. To relinquish all their property, to reduce themselves and families to a state of beggary, and submit to have all the profit of the labour and sufferings of their whole lives wantonly taken from them, and given to others; there was an insolence and cruelty in this kind of oppression, to which they ought not to have submitted, so long as it was in their power to prevent it. Instead of being softened, the iniquity of this oppression was increased, by its being committed under the ostentatious authority of the king, the law, and the government of New-York. The settlers certainly did right in opposing such pretensions and proceedings. They felt, with an irresistible evidence, that the natural rights of men were of an higher original, and of a more sacred authority, than the variable decisions of a British king, or the rapacious views of a provincial Governor and Council. Such opposition to these proceedings as was necessary in order to be effectual, was undoubtedly justifiable by the law of nature and nations.—But Vermont was not without error, in suffering the sixteen towns from New-Hampshire to join with her. This was opening the door to irregularity and confusion; and, in the event, was of more disadvantage than benefit, and ought, in the first instance, to have been prevented. But when New-Hampshire and New-York were aiming to divide the whole territory of Vermont between them, Vermont was not blamable for defending herself by the same policy, and receiving their towns and settlements into her confederation.

"New-York had a proper right to claim the jurisdiction of the whole territory, which the royal decision had assigned to her in 1764: and, had she been content with this, there

never would have been any controversy about the matter. Her great error was in re-granting the lands, and ejecting the settlers from the estates which they had honestly bought before, of the highest British authority, and made valuable by their labour, sufferings and hardships. It is true, the proceedings of New-York were all agreeable to the forms of their laws. Instead of being a justification of those proceedings, the abuse and cruelty became greater from this circumstance; for injustice is most of all odious when it is calmly and deliberately done, under the colours of law and government.—Under the royal government such proceedings had not been altogether uncommon, nor was it in the power of the people to prevent them: but when the people had taken the powers of government into their own hands, these errors certainly ought to have been corrected. A perseverance in the same error seems to have rendered the claims of New-York disagreeable to Congress, and, in the event, united the public opinion in opposition to her claims, and in favour of those of Vermont.

"New-Hampshire had just occasion for offence at the proceedings of her citizens in the seceding towns, and with the government of Vermont, for receiving them into her confederation. But there was not either sound policy or any advantage in extending her claim over the whole territory: no colour of title, or any pretence of right, could be found for such a claim; and the design of it was perfectly well understood.

"How far Congress was forced to adopt an evasive policy, by the circumstances of the war, it may be difficult for those who were not in the cabinet to determine. Her great business undoubtedly was to preserve peace and union among the States, and to prevent their contentions from injuring the common cause. This end was effected; but it does not seem to have been produced by the policy of Congress, but by the virtue of the people. The measures of Congress respecting the controversies of Vermont with New-Hampshire and New-York, served rather to displease all parties than to satisfy any. Such was their uncertainty, their contradictory and evasive nature, that when the dangers occasioned by the war were removed, the people of Vermont had very little desire or inclination to be much connected with Congress. It was not until more steadiness, vigour and ability appeared in the federal government, that the people were willing to be brought into the American union.

" Amidst the errors and evils which attended these controversies, they were found to produce some good effects. They served to exercise and draw forth abilities and powers, which proved of great service to their country when they came to be employed in the grand contest with Britain. They led the people to acquire just sentiments of the rights of men, and of the nature, importance, and extent of government. At that period every thing in America seemed to operate to promote political knowledge. The principles of civil liberty, which were but imperfectly considered in the writings of Locke, Sydney and Montesquieu, occurred every moment to the views and feelings of the whole body of the people. Instead of being any longer barely the discoveries of a few enlightened philosophers, they became the prevailing sentiments of the whole body of the American citizens: and, from that period until now, they have been constantly operating to produce a more natural form of government, a more perfect system of freedom, and a more flourishing state of society in America, than ever had been known before, among all the associations of men."

The sequel of this work is employed in delineating the government and manners of Vermont. Under these heads are included the employments of the people—agriculture—hunting—manufactures—the profits of labour—education—early marriages—activity—equality—economy—hospitality—religion—constitution—laws—administration of justice—public expense and revenue—militia—population. On all these interesting subjects the author displays liberal modes of thinking, comprehensive and impartial views, and affords us not, indeed, very minute information, but such as will prove satisfactory to the general reader. We are particularly pleased with his observations upon early marriages, religious equality, and the causes of the growth and decline of political liberty. On the last head, the following remarks afforded us uncommon satisfaction:

" No other cause but that which first produced the freedom of America, will prove sufficient to support and preserve it. It is in the state of society that civil freedom has its origin and support. The effect can never be more pure or perfect than the causes from whence it arises, and all those causes terminate in the state and condition of the people.—The form of government by which the public business is to be done, a bill of rights to ascertain the just claims of the people, a constitution to direct and restrain the legislature,

a code of laws to guide and direct the executive authority, are matters of high importance to any people, and are justly esteemed among the wisest productions of ancient or modern times. But no people ought to expect that any thing of this nature will avail to secure, or to perpetuate their liberties. Such things are consequences, not the causes—the evidences, not the origin, of the liberties of the people. They derive their whole authority and force from the public sentiment, and are of no further avail to secure the liberties of the people, than as they tend to express, to form, and to preserve the public opinion. If this alters and changes, any bill of rights, any constitution or form of government, and law, may easily be set aside, be changed, or be made of none effect: for it will never be dangerous for the government of any people to make any alterations or changes which the public opinion will either allow, justify or support. Nor ought any people to expect that their legislators or governors will be able to preserve their liberties for a long period of time. Any body of men, who enjoy the powers and profits of public employments, will unavoidably wish to have those profits and powers increased. The difficulties they will meet with in the execution of their office, the unreasonable opposition that will be made by many to their wisest and best measures, and the constant attempts to displace them, by those whose only aim and wish is to succeed them; such things, joined with a natural love of power and profit, will not fail to convince all men in public employments, that it would be best for the public to put more confidence and power in them. While they thus wish and aim to increase and add strength to their own powers and emoluments, those powers and emoluments will be called the powers and the dignity of government. It may be doubted whether men are much to blame for wishing and aiming at that which their situation and employment naturally leads to. The effect seems to be universal. It has ever been the case that government has had an universal tendency to increase its own powers, revenues and influence. No people ought to expect that things will have a different tendency among them; that men will cease to be men, or become a more pure and perfect order of beings, because they have the powers of government committed to them.

“ Upon what, then, can the people depend for the support and preservation of their rights and freedom? Upon no beings or precautions under heaven but themselves. The spirit of liberty is a living principle. It lives in the minds, principles,

and sentiments of the people. It lives in their industry, virtue, and public sentiment: or, rather, it is produced, preserved, and kept alive by the state of society. If the body of the people shall lose their property, their knowledge and their virtue, their greatest and most valuable blessings are lost at the same time. With the loss of these, public sentiment will be corrupted: with the corruption of the public sentiment, bills of rights, constitutions written upon paper, and all the volumes of written law, will lose their force and utility. Their government will immediately begin to change; and when the people have themselves lost the cause, the principle, and the spirit of freedom, they will no longer be capable of a free government: they are better suited for the restraints of aristocracy, or, what is far better, for the regulations of monarchy. The constitutions and the laws of such a people will no more preserve their freedom, than the tombs and the coffins of Montesquieu and Franklin will retain their abilities and virtues.

"Ye people of the United States of America, behold here the precarious foundation upon which ye hold your liberties! They rest not upon things written upon paper, nor upon the virtues, the vices, or the designs of other men; but they depend upon yourselves—upon your maintaining your property, your knowledge and your virtue. Nature and society have joined to produce, and to establish freedom in America. You are now in the full possession of all your natural and civil rights; under no restraints in acquiring knowledge, property, or the highest honours of your country; in the most rapid state of improvement and population; with perfect freedom to make further improvements in your own condition. In this state of society, every thing is adapted to promote the prosperity, the importance, and the improvement of the body of the people. But nothing is so established among men, but that it may change and vary. If you should lose that spirit of industry, of economy, of knowledge and of virtue, which led you to independence and to empire, then, but not until then, will you lose your freedom. Preserve your virtues, and your freedom will be perpetual!"

In the Appendix are contained, 1. An account of the variation of the magnetic needle in the eastern States; 2. Observations on the change of climate in Europe and other places; 3. A dissertation on the colours of men, particularly on that of the Indians of America; 4. The declaration and petition of the inhabitants of the New-Hampshire grants to Congress, announcing the district to be a free and indepen-

dent State; 5. The remonstrance of the commissioners from Vermont against the proceedings of Congress, Sept. 22, 1780; 6. Questions proposed by the committee of Congress to the agents on the part of Vermont, with the answers of the agents, August 18, 1781; and, 7. An account of the ratable property, and of the number of the inhabitants in Vermont, at different periods of time.—The speculations upon change of climate, and the colour of the aborigines of America, indicate a philosophical mind, and are methodical, perspicuous and clear, but contain nothing very new or remarkable.

On the whole, we shall dismiss this work with observing, that it is adapted to afford pleasure and instruction to every curious reader—that the extent and variety of information it contains reflects credit on the author's industry and capacity. The moderation and liberality of his opinions on morals, politics and religion, lay claim to considerable respect; and the style of his performance, though blemished by occasional provincialisms, and somewhat wanting in neatness and precision, is, for the most part, perspicuous and correct.

ARTICLE III.

Transactions of the Society for the Promotion of Agriculture, Arts and Manufactures, instituted in the State of New-York. Vol. i. The second Edition, revised. 8vo. pp. 418. Albany. C. R. & G. Webster, 1801.

THE society, the first fruits of whose labours are here offered to the public, was instituted by some respectable citizens in the year 1791. It was incorporated by the legislature of the State in 1793. Its annual meetings are held at the place where the legislature is convened; and the members of that body are, by virtue of their seats, *honorary* members of the society.

It would be superfluous to expatiate on the advantages of such an association, in a country, the great mass of whose inhabitants are cultivators, and whose wealth, happiness and prosperity, depend on the *plough* and the *sickle*. The Agricultural Society of New-York merits the attention and encouragement of our own citizens; and it is already regarded with respect by liberal and well-informed men in other coun-

tries. Should the members pursue their labours with increasing spirit and enterprize, it will become one of the most useful institutions in our State. That our readers may form some opinion of the extent of their inquiries, we shall exhibit briefly the contents of the present publication.

These Transactions are divided into four parts, which have been successively published by the society, and are now collected into one volume, with some additions and corrections.

Beside the rules of the society, the act of incorporation, and a circular address, the present volume contains the following agricultural papers:

1. *Experiments and Observations on Calcareous and Gaseous Earths.* By Robert R. Livingston, Esq. President of the Society.
2. *Communications relative to Manures.* By Ezra L'Hommedieu, Esq.
3. *On the raising of Red Clover Seed.* By the same.
4. *Observations on the Hessian Fly.* By Jonathan H. Havens, Esq.
5. *Observations on the Drilling of Wheat.* By Walter Rutherford Esq.
6. *Correspondence between the President of the Society and the President of the Chamber of Commerce, respecting the Introduction of Plants and Animals from foreign Countries.*
7. *Experiments and Observations on Lucerne.* By Robert R. Livingston, Esq. President of the Society.
8. *Remarks on Green-gage Plumbs.* By the same.
9. *Experiments made on manuring Land with Sea-weed taken directly from Creeks, and with Shells.* By Ezra L'Hommedieu, Esq.
10. *Remarks on Ditches and Hedges.* By the same.
11. *On improving poor Lands by sowing red Clover.* By the same.
12. *On the Folding of Sheep.* By the same.
13. *On the raising of Calves.* By the same.
14. *Reports of Committees on the best Method of raising Barley and Hops.*
15. *Essay on Perennial Grasses, and the best Method of cultivating them.* By Peter De La Bigarre, Esq.
16. *On the Excretory Duct of the Feet of Sheep.* By Robert R. Livingston, Esq. President.
17. *On the Effects of the Shade of Trees upon Vegetation.* By the same.

18. *On Cast Iron Plough-shares.* By Col. John Smith.
19. *Observations on constructing a Green-House.* By John W. Watkins, Esq.
20. *Experiments on Wheat, Clover and Lucerne.* By John Stevens, of Hoboken.
21. *On the Cultivation of the tall Meadow Oats, and on Gypsum and Stone-Coal as a Manure.* By the Rev. Henry Muhlenburgh, of Lancaster (Pennsylvania.)
22. *Review of William Curtis's Pamphlet on Grasses.* By Dr. Mitchill.
23. *On the Decay of Apple-Trees.* By William Denning, Esq.
24. *A Treatise on the Management of Silk-Worms within Doors, and in the open Air upon Hedges.* By Peter De La Bigarre, Esq.
25. *Experiments and Observations on the Culture of White Thorn for Hedges.* By Jonathan H. Havens, Esq.
26. *Observations on Manures, and on the feeding of Hogs to advantage.* By Ezra L'Hommedieu, Esq.
27. *On Septon (Azote) and its Compounds, as they operate on Plants as Food, and on Animals as Poison.* By Dr. Mitchill.

This paper contains an application of the well-known theory of its ingenious author to the subject of manures, &c. in which he displays much learning and ability.

28. *On the Method of tarring Seed-Corn to prevent its being destroyed when planted.* By James G. Graham.
29. *An Account of extraordinary Crops of Indian Corn raised by means of Street Manure.*
30. *Method of procuring new Varieties of Potatoes.* By Simeon De Witt.
31. *On raising Potatoes.* By N. Webster, Esq.
32. *On the Cultivation of the Poppy-Plant, and the Method of procuring Opium, &c.* By Dr. Ricketson.
33. *On the weaning of Calves.* By Lemuel Clift, Esq.
34. *On Vetches (*Vicia Sativa Vulgaris*), and the advantage of their Cultivation as a Summer Fallowing Crop.* By Robert R. Livingston, LL. D. President.
35. *Observations on the Smut of Wheat, and the means of preventing it.* By Ezra L'Hommedieu, Esq.
36. *Observations on Canker-Worms, and the means of preventing their Effects.* By Dr. Mitchill.
37. *Report of a Committee on the best Method of preserving and propagating Forest Trees.*

38. *An Account of some of the Natural Productions of the Western Part of this State.* By John W. Watkins, Esq.
39. *Method of curing Diseases of Fruit Trees, &c.* By William Forsyth. Communicated by Ezra L'Hommedieu, Esq.
40. *Thoughts on Lime and Gypsum as Manures.* By Robert R. Livingston, President.
41. *Observations on the Growth and Nourishment of Plants.* By Ezra L'Hommedieu, Esq.
42. *On the Effects of Oxygen in accelerating the Germination of Seeds,* (from the *Journal de Physique*, 1798.) Communicated by Robert R. Livingston, President.
43. *On the Effects of Nitre and Salt-Petre in promoting the Growth of Corn and Wheat.* By Robert Johnson, Esq.
44. *On the Advantages of domesticating the Elk and the Moose.* By Robert R. Livingston, President.
45. *On the best Method of putting up and salting Beef for Exportation, extracted from a Representation made to the Legislature on that Subject.*
46. *Observations on the Manner in which Bot-Worms are generated in Horses, and the means of Prevention.* By Robert R. Livingston, President, and by Major Andrew Billings.

As most of the above papers have been for some time before the public, we shall not enter into a minute examination of them.

Their merits are very various. The observations on the Hessian Fly, by Mr. Havens, are highly valuable, and contain the most satisfactory account of that destructive insect that we have seen.

The remarks on the culture of the White Thorn for hedges, by the same gentleman, contain much observation and good sense, and are well deserving the attention of all American farmers in the maritime parts of the United States. Connected with the same subject are the communications of Mr. L'Hommedieu on Ditches and Hedges, and of Mr. De La Bigarre, on the White Mulberry Hedges.

The treatise of the last mentioned gentleman on the management of Silk-Worms, contains some instructive information on those valuable insects.

The culture of silk has been attended with success in some parts of New-England, but it has never been carried to that

extent as to render it an object of general attention; though it is evident, from the experiments which have been made, that the climate of America is more favourable to the silk-worm than that of Italy, Spain or France, where it is most cultivated.—As their management can be intrusted to females and children, the expense is inconsiderable.

But the objects of primary importance in agriculture, are *tillage*, the melioration of the soil by *manures*, and the improvement in our breeds of oxen, horses and sheep.

On these interesting subjects, our attention was most attracted by the experiments and observations of the learned President and Vice-President of the society.

The papers contained in this volume, not immediately connected with agriculture, are the following:

1. *A Memoir on the Onondaga Salt Springs, and Salt Manufactories in the State of New-York.* By Benjamin De Witt, M. D.

From this memoir we extract the following description of these salt springs:

“The salt springs which I propose now to examine are situated in the north-western part of the State of New-York, in the county of Onondaga, at the head of the Onondaga or Salt Lake, about 150 miles from the city of Albany, in latitude 43 deg. 4 min. 30 sec. N. longitude 1 deg. 5 min. W. of Philadelphia.

“The Onondaga Lake is about six miles long, and, on an average, one mile wide. It is supplied with water by a number of rivulets, and empties itself, by a short outlet, into the Seneca River, sufficiently large to be navigated with batteaux. The water is transparent, and abounds with fish; its taste is perfectly fresh, notwithstanding the numerous salt springs which continually flow into it. This is the case, however, only on its surface; for I am informed that, by sinking a corked bottle to the bottom of the lake, and then withdrawing the cork, salt water is brought up. Water, impregnated with salt, being specifically heavier than fresh, would naturally move along the bottom, and continue there, unless brought up and mixed by some great commotion of the waters. This can plainly be discerned where the salt water issues from the springs into the fresh water of the surrounding marsh; various light substances may be seen swimming some distance below the surface, between the salt and fresh water; these substances being of a specific gravity lighter than the one, and heavier than the other. The bottom of the lake,

where it can be seen in shallow places, has a white appearance almost peculiar to itself, except the spots which are covered with a singular species of moss, growing there in abundance. This white appearance is most probably produced by the precipitation of a calcareous earth from the water; and this conjecture is confirmed by the circumstance of the salt water holding a large quantity of lime in solution.

"The head of the lake is surrounded, for some distance, by marshy and swampy ground, interspersed with a few large trees and bushes, but abounds most with flag and wild grass. The salt springs issue, for the most part, from this marsh, near the banks by which it is bounded, at various distances from the waters of the lake. The principal springs, which are most highly impregnated with salt, and which supply the greater number of the manufactories at present established, issue from the marsh in a group at the foot of the declivity formed by the upland on which the village of *Salina* is situated, commonly called the Salt Point, near the place where the Onondaga creek empties itself into the lake. There are, however, numerous other salt springs discovered in different parts of the marsh; some along the shores of the lake, several miles down, others a considerable distance up the Onondaga creek; and what is remarkable, they have been found to rise, in shallow places, from the bottom of the lake, at some distance from the shores. All these, however, are not so strongly impregnated with salt as those before mentioned at the Salt Point.

"The springs issue from the black mud which composes the marsh, by small orifices, apparently in a perpendicular direction. The manufacturers, for the conveniency of pumping the water into conductors which lead to the evaporating pots, construct cisterns or reservoirs where the springs appear. The superfluous water from these, as well as that from the surrounding marsh, is emptied into a small bay or harbour a few yards from the springs, large enough to contain fifty or sixty boats at once, as if designed by nature for the express conveniency of exporting salt. This bay communicates with the lake by a short outlet, but sufficiently deep to be navigated with the flat boats and batteaux which are usually employed.

"The marsh surrounding the springs, for a few yards, is entirely destitute of grass and all other vegetables, except some samphire (*crithmum* of Lin.); and, when the sun shines, the water is evaporated from the surface of the mud, leaving it covered with crystallized salt, resembling hoar frost.

" It is remarkable that all the dead vegetable substances which happen to be within the reach of the salt waters, assume a reddish brown colour: hence all the bushes, old sticks, and various kinds of timber scattered about the springs, and even the troughs (generally made of white cedar) through which the water is conducted to the boilers, in a short time acquire this colour: not only dead vegetable substances, but even growing vegetables and stones are thus changed in appearance. I have observed, however, that this red colour extends no farther than the surface of both vegetables and stones; the internal part of the old wood being invariably black, and that of the stones natural. It may, therefore, be produced merely by the deposition of a red earthy matter upon these various substances.

" Salt springs are discovered and characterized, by those who search for them, by the absence of grass and flags—by the red colour of the mud and old wood which may happen to be scattered there; if the marsh be covered with water, by its temperature being much colder than the stagnant water, and also by the appearance of a continual bubbling from the bottom, in consequence of the air which is perpetually extricated from them.

" Vegetable substances appear to putrify much sooner in the vicinity of the salt waters than in any other places: hence, even when the weather is but moderately warm, there is always a very disagreeable putrid smell near the springs; and in midsummer, I am informed, it becomes almost intolerable. We could very plainly observe this disagreeable odour as soon as we approached near the outlet of the lake, in going up the Seneca River in the month of June. On account of the shallowness of this outlet, it is probable that the salt water which had been gliding along the bottom of the lake, became there mixed with the fresh, and, by exposure to the air, excited an incipient putrefaction in the various substances capable of undergoing that process. Nothing of the offensive smell was perceived while we were crossing the lake, but it recurred again in a much higher degree as soon as we approached the shore near the salt springs. This may, perhaps, be accounted for by the well known experiments which prove that a small quantity of salt, dissolved in water, accelerates and promotes putrefaction; whereas, a stronger impregnation becomes highly antiseptic. This putrefactive process takes place in an extraordinary degree, only in those situations where the salt waters mix with the fresh;

for the undiluted waters of the springs themselves are sufficiently impregnated with salt effectually to preserve both vegetable and animal substances; being stronger than the pickle usually made to preserve beef. As a proof of this, I need only mention, that in almost every spring there are occasionally found several dead frogs that have accidentally plunged into them instead of fresh water, and instantly died. These frequently remain there for a long time, perfectly preserved, without any putrid smell.

"The bottoms of the springs appear to be composed of solid rock; for, by running down an iron instrument into them, it uniformly proceeds six or seven feet through the mud, and then is obstructed by a solid obstacle, which can plainly be felt to be stone. I am informed by those who have dug into the springs, that the streams of salt water appeared to rise perpendicularly from the bottom; whereas, those of fresh water, where they happen to occur in these places, have a horizontal direction, and more superficial. This observation confirms the supposition that the salt water is forced directly upwards, through the interstices of the calcareous rock, which probably covers a large body of salt; and that the veins of fresh water, being entirely separate, make their way, in a horizontal direction, from the springy ridge at a small distance. This, too, will explain how it happens, that several good fresh springs, without a particle of salt, are found at the foot of this ridge, not ten yards from some of the salt springs. Sticks of wood have been dug up from the bottom of some of the salt springs, which have been found incrusted with a substance of a metallic appearance. I could not procure any of these for examination.

"The reservoirs and springs of salt water are usually covered with a pellicle of extreme tenuity, reflecting the rays of light in variegated colours, similar to that which occurs upon the surface of the water in tar vats. This is probably a bituminous oil which rises with the water from the bowels of the earth.

"There is continually emitted from the bottom of the springs a large quantity of an *aërial fluid*, which bubbles from the surface of the water. By inverting a bell glass in the springs, I collected, in a very short time, a considerable quantity. As it rises from the bottom it appears to be entangled by the mud; for, by running down a stick repeatedly, it is disengaged so fast as to cover the water with bubbles, resembling a boiling pot. A burning candle being put into this

air, thus procured, was extinguished in an instant of time, and that after the vessel had stood open for a little while. From this experiment I conclude it to be fixed air* (carbonic acid gas), characterized by its being totally incapable of supporting combustion, and by its greater specific gravity than atmospheric air, in remaining for some time at the bottom of the vessel, although it was open. It is no uncommon thing to find this air generated in the bowels of the earth in great abundance. It frequently manifests itself in deep mines, and sometimes proves fatal to the miners: hence they call it choak-damp, to distinguish it from the inflammable air which also sometimes occurs: this is called fire-damp. It is supposed, also, that it is the same air which issues from the famous Grotto del Cani in Italy, and is so noxious to animal life.

" This air, as it rises through the water, does not, however, appear to incorporate with it, at least not in any perceptible degree; for the water has none of that sparkling brightness, nor that pungent odour, which is characteristic of this gas when united with common water: on the contrary, it appears flat and heavy. The air, in this instance, is probably produced by the decomposition of lime-stone, which we know contains it in abundance, and the salt water holds a considerable portion of lime in solution. It is probably partly dissolved by means of the muriatic acid (spirit of sea-salt): this having a stronger attraction for lime than the aerial acid, would displace, and set it at liberty to be dissipated in the form of air."

About 60,000 bushels of salt are manufactured annually, which pays a duty of four cents per bushel to the State.

2. *Improvements in the Steam-Engine. Communicated to the Society in January, 1798, by Robert R. Livingston, Esq. President.*
3. *A new Discovery relative to the Art of manufacturing Paper. By the same.*
4. *On the means of improving the Manufacture of Flour, and diminishing the Consumption of Water in grinding. By the same.*
5. *Calculation of the Profit to be derived from the Gross Matter or Sediment of Whale Oil. By Benjamin Folger.*

* " This air has received a number of different names by different authors: it is the *spiritus mineralis* of Hoffman, the *aerial acid* of Berghman, the *cretaceous acid* of Fourcroy, the *fixed air* of Priestley and Black, and the *carbonic acid gas* of the French chemists.

6. *Method of distilling Ardent Spirits from Potatoes. By Ezra L'Hommedieu, Esq.*
7. *An Account of new-constructed Fire-Places. By John Stevens, Esq.*
8. *A Plan of a Meteorological Chart for exhibiting a Comparative View of the Climate of North-America, and the Progress of Vegetation. By Simeon De Witt, M. A. P. S.*
9. *Tables of Thermometrical Observations.*
10. *Experimental Essay on the Gallium Tinctorum, and its Use in the Art of Dyeing. By James Woodhouse, Professor of Chemistry, Philadelphia.*
11. *On the Methods of introducing Heat into Rooms, and preventing its Escape. By Simeon De Witt, Esq.*

By the experiments of Professor Woodhouse on the *Gallium Tinctorum*, it appears that it may be made to give a permanent red colour to silk and cloth, and is, therefore, a valuable article in the art of dyeing. It is supposed to be the same plant with which the Indians give the brilliant red to the porcupine quills so much used by them.

The method proposed by Mr. De Witt for introducing heat into rooms, may be seen from the following extract:

"I shall now, by way of conclusion, give two projects of my own. The one is the most perfect I can think of for introducing the heat of a fire into a room; the other I would call the simplest and most convenient: both being constructed with an eye to the preservation of a due degree of freshness and wholesome respirability in the air.

"The one to bring as much as possible of the heat of a fire into a room, would be this: Let a Pipe-Franklin be placed in a common fire-place, whose chimney should be of such a width as that the pipe might run through it without touching its sides. Let the pipe be thus carried through it, beyond the top. Let the top of the chimney be then closed round the pipe air-tight. Let a tin tube, of about two inches diameter, be carried from the lower part of the building, on its outside, to the top of the chimney, and there communicate with it. And, lastly, let an opening be made from the chimney into the room, a little below the ceiling. Perhaps it would be of service to have the inside of the chimney whitewashed. The operation of this construction would be thus: The heat that would not be directly emitted into the room, would ascend with the smoke into the pipe, which would readily absorb and transmit it to the space in the chimney

surrounding the pipe ; and the current of air constantly pressing into the top of the chimney through the tin tube, would force this heated air down into the room through the opening near the ceiling, so that all the heat communicated to the pipe, from its bottom to its top, would, with little exception, be carried back into the room ; and this, in a high chimney, would be nearly all that is carried away by the smoke. The draught, moreover, would thus be supplied with warm instead of cold air. It is easy to be perceived that the same contrivance may be applied to a common fire-place, by only closing the chimney round the pipe at the bottom as well as the top.

" My other project is this : Mason a cast iron plate for the back of the fire-place fast, in the usual position, some inches from the back of the chimney. To its top let a sheet of plated iron be joined, and carried perpendicularly up as high as the ceiling of the room, with its edges masoned in the sides of the chimney, and its top bent backwards, and fastened into the back of the chimney. From the hollow space between this iron partition and the back of the chimney, make small openings into the room, one on each side, through the jambs near the floor, and one on each side near the ceiling. The operation of this contrivance, then, would be thus : The heat that would otherwise escape with the smoke, will, in a great measure, be communicated to the iron partition, and thence to the air behind it, which would immediately ascend, and pass into the room through the upper openings, while the colder air would press into those near the floor, thus making a quick circulation through the cavity between the iron plates and the back wall. By those means the heat of the chimney would be drawn into the room with great rapidity ; for the quicker the succession of fresh air, or any other vehicle coming in contact with a heated body, the greater will be the quantity of heat conducted from it in a given time."

The *Addresses* to be found in this volume are by ROBERT R. LIVINGSTON, President, Dr. MITCHILL, JAMES KENT, Esq. and SIMEON DE WITT, Esq.—These contain many judicious and sensible remarks on agricultural affairs, and the peculiar advantages of this country for the prosecution of successful husbandry. They display the zeal of their respective writers in the cause of improvement, and are expressed in language neat and perspicuous.

On the whole, though pleased with the proofs of ability and diligence in the members of the society, displayed in this

volume, we cannot but express our regret that more has not been done by them. Instead of noticing this second edition of their first publication, we should have been more gratified in examining the contents of new and additional volumes of their transactions. But we are, at the same time, sensible of the difficulties and discouragements which every scientific or economical association, in America, must encounter from the indolence, prejudice and selfishness of individuals.—Considering the enlarged and liberal plan of this institution, we cannot but hope that it will receive such favour from the public as may excite the agricultural citizens of our State to renewed activity in promoting discoveries and improvements in objects of such vast importance to the wealth and prosperity of the country.

ARTICLE IV.

Reports of Cases argued and determined in the Court of Appeals of Virginia. By Bushrod Washington. 2 Vols. 8vo. Richmond. T. Nicolson. 1798.

THOSE who are in any degree acquainted with judicial proceedings, know the weight and influence of authorities upon those questions which are constantly litigated in our tribunals. Correct *reports*, therefore, of such causes as establish principles susceptible of general application, are highly useful. Whilst works of this kind facilitate legal inquiry, they have a manifest tendency to preserve a uniformity of decision, and to render the law stable: points, in a free country, of the first importance.

It is with great satisfaction we observe gentlemen of the bar, in different parts of the United States, beginning to make reports of those cases which are adjudged in their respective courts; and although, in such an employment, much professional skill is required, yet the rudest attempts will not be entirely destitute of use, and may prompt to efforts more successful.

The writer of the volumes before us is eminently qualified for the duty he has undertaken, and he has discharged it in a manner no less honourable to himself than useful to the community. He for some time held a distinguished rank at the

Virginia bar, and now fills, with great ability, a seat on the bench of the Supreme Court of the United States. His talents and learning support the lustre of a name dear to Americans.

The reporter informs us, in his preface, that *the notes of the cases were taken for his own use, without any view to their publication; that his sole aim has been to give a correct statement of them, and to make a true report of the arguments, and decisions upon them.* This ought always to be the principal object in such a work; and, in the present one, as far as we can judge, has been faithfully kept in view, and satisfactorily accomplished. The cases appear to be stated with precision, and the questions arising upon them to have been accurately comprehended by the reporter: justice seems also to have been done to the arguments on each side, though these are, perhaps, sometimes not sufficiently compressed; and the opinion of the court is always stated with perspicuity.

These decisions being almost entirely grounded on the local customs and laws of a country merely agricultural, they will afford but little information to those who seek to be informed of the principles and policy which govern our commercial and maritime code of jurisprudence. Although the sphere of their utility is therefore considerably narrowed, they will, notwithstanding, be resorted to with great advantage, not only by the practising lawyer of Virginia, but of those neighbouring States over whom a similar system of law prevails. Those also at a distance, who are not indifferent as to the modes in which justice is administered in other parts of our common country, will be enabled, by a perusal of these volumes, to gratify a laudable curiosity; and, whether they shall find any thing in them preferable to those forms to which they have been accustomed, or not, they will at least feel additional motives for highly appreciating a wise and upright administration of law.

We shall not attempt any comparison between the jurisprudence of our own State and that of Virginia: it would probably be both useless and invidious. It is also to be presumed, that the system which each has adopted has grown out of its own peculiar habits and condition, and is, therefore, best suited to its circumstances. We cannot, however, forbear from noticing one instance, at least, in which the practice of the courts of Virginia, as stated in these Reports, has, in our judgment, a decided preference over that pursued with us. We allude to their method of trying the question of slavery.

There the slave brings a suit for false imprisonment, assault and battery against his master: to this he pleads that the plaintiff is his slave. Upon this, issue is joined, and the question, whether slave or free, is fairly presented for inquiry, stripped of all the obsolete, senseless jargon, which attends our manner of proceeding by writ *de homine replegioando*.

We are aware that certain old technical difficulties may be opposed to the form of action followed in Virginia; but we think no good reason can be assigned why our courts should not adopt the practice, and mould it to the purpose designed, with as much facility and propriety as they have made the action of ejectment subservient to the trial of title to land.

Juridical writings seldom have much claim to literary merit. Mr. W. expressly disavows all pretensions of this kind: "I have not," says he, "*had time to polish.*" We think, however, that the style is very well adapted to the nature of the work. Elegance ought not to be expected: for although the magic power of genius has, in some instances, given a classical air to legal subjects, before thought unsusceptible of the graces of language, yet the business of a *reporter* is rather to record with plainness and fidelity, than to decorate with artificial or splendid ornament.

ARTICLE V.

*The Works of the Rev. John Witherspoon, D. D. LL. D.
late President of the College at Princeton, New-Jersey, &c.*

[Continued from page 324.]

THE remarks, in the last number of our Review, on this collection of Dr. Witherspoon's Works, after some general observations on his character as a writer, were chiefly confined to the first volume. We proceed, according to promise, to lay before our readers a brief account of the contents and character of the remaining volumes.

The second consists of thirty-one sermons on the following subjects:—I. Fervency and Importunity in Prayer. II. Obedience and Sacrifice compared. III. The Security of those who trust in God. IV. The Object of a Christian's Desire in religious Worship. V. The Glory of Christ in his Humiliation. VI. The Deceitfulness of Sin. VII. The Believer

going to God as his exceeding Joy. VIII. The Christian's Disposition under a Sense of Mercies received. IX. A View of the Glory of God humbling to the Soul. X. Of the Happiness of the Saints in Heaven. XI. Ministerial Fidelity in declaring the whole Counsel of God. XII. Ministerial Character and Duty. XIII. Man in his Natural State. XIV. An Inducement to come to Christ. XV. Trust in God. XVI. Trust in God. XVII. On the Purity of the Heart. XVIII. Seeking a Competency in the Wisdom of Providence. XIX. The Danger of Prosperity. XX. The Danger of Adversity. XXI. On the religious Education of Children. XXII. The Dominion of Providence over the Passions of Men. XXIII. Delivered at a Public Thanksgiving after Peace. XXIV. Seasonable Advice to young Persons. XXV. Devotedness to God. XXVI. The Righteous scarcely saved, and the Wicked certainly destroyed. XXVII. The Success of the Gospel entirely of God. XXVIII. The Yoke of Christ. XXIX. The Glory of the Redeemer in the Perpetuity of his Work. XXX. The Petitions of the Insincere unavailing. XXXI. Christian Magnanimity. XXXII. An Address to the Students in the Senior Class.—Of the above discourses, all excepting the twenty-fifth, twenty-sixth, twenty-seventh, twenty-eighth, twenty-ninth and thirtieth, have before appeared from the press. These six, it is believed, were for the first time published in this collection.—Of Dr. Witherspoon's character as a sermon-writer we have before spoken. The same good sense, lucid arrangement, perspicuity of expression, and manly eloquence, which were formerly mentioned as belonging to his pulpit discourses, appear in those now under consideration. The sermon on *Ministerial Fidelity in declaring the whole Counsel of God*, delivered to the people of *Paisley* when the author was about to close his pastoral relation to them, is among the most instructive, dignified and solemn, that we remember to have seen.—With a little more taste, animation and pathos, Dr. W. might be pronounced incomparably the best sermon-writer in the English language.

The third volume, besides some smaller pieces, is made up of the following; viz.

1. *A serious Inquiry into the Nature and Effects of the Stage.*

This *Inquiry* was written and published many years ago in Scotland, on occasion of the Rev. Mr. HOME being called before the Presbytery of Edinburgh, of which he was a member, to answer to a process instituted against him as the author

of a celebrated tragedy called " Douglass." We presume few of our readers are ignorant of the noise which that performance made on its first appearance, and of the uneasiness which it excited in many serious minds, as the production of a clergyman.

The author, in this inquiry, pronounces theatrical exhibitions inconsistent with christian morality. He believes that, from their very nature, they have a corrupting influence on the actors themselves, and on all who attend upon them; that the idea of a purely moral theatre, in the present condition of human nature, is a chimera, and that, of course, all who profess to be governed by christian principles ought to disown and oppose the existence of any.—We believe this essay is generally considered as one of the most able that has appeared on the subject of which it treats. To those, therefore, who are disposed to investigate this subject, it may be safely recommended as containing the principal arguments against theatrical exhibitions, stated with great clearness and force.

The following passages will enable the reader to judge of the scope and style of the Doctor's reasoning:

" It will be proper here to take notice, because it has some relation to this subject, of what the advocates of the stage often make their boast, that before a polished audience things grossly criminal are not suffered to be acted; and that it is one of the rules of the drama, that, if such things be supposed, they must be kept behind the scenes. We are often put in mind of the pure taste of an Athenian audience, who, upon one of the actors expressing a profane thought, all rose up and left the theatre. A famous French tragedian, Corneille, also takes notice of it as an evidence of the improvement of the stage in his time, that one of the best written pieces had not succeeded, ' because it struck the spectators with the horrid idea of a prostitution to which a holy woman had been condemned.' As to the case of the Athenians, it were easy to show, from the nature and circumstances of the fact, that this resentment at the profanity of the poet, though it was expressed in the theatre, was by no means learned there. But it is needless to enter into any nice disquisition upon this subject, for all that follows from any such instances is, that there are some things so very gross and shocking, that, as but a few of the most abandoned will commit them, so the rest of the world can have no delight in beholding them. There is, no doubt, a great variety of characters, differing one from an-

other in the degree of their degeneracy, and yet all of them essentially distinct from true piety.

" To set this matter in a just light, we must remember that, as has been confessed above, the matter of many good actions, or a defective, imperfect form of virtue, is approved by the generality of the world, and that they are very much swayed in their actions by a view to public praise: therefore they are mutually checks to one another; and vice is not seen on a theatre in a gross, but commonly in a more dangerous, because an engaging and insinuating form. The presence of so many witnesses does restrain and disguise sin, but cannot change its nature, or render it innocent. The purity of the theatre can never be carried farther by the taste of the audience than what is required in conversation with the polite and fashionable world. There vice is in some measure restrained: men may be wicked, but they must not be rude. How much this amounts to is but too well known: it is no more than that we must not disgust those with whom we converse, and varies with their character. This is so far from being agreeable to the rules of the gospel, that a serious christian is often obliged, from a sense of duty, to be guilty of a breach of good manners, by administering unacceptable reproof.

" Thus it appears that, in the stage, the audience gives law to the poet, which is much the same thing as the scholar choosing his own lesson: and whether this be a safe or profitable method of instruction is easy to judge. Every one who knows human nature, especially who believes the representation given of it in scripture, must conclude that the young will be seduced into the commission, and the older confirmed and hardened in the practice of sin; because characters, fundamentally wrong, will be there painted out in an amiable light, and divested of what is most shameful and shocking. By this means conscience, instead of being alarmed, and giving faithful testimony, is deceived, and made a party in the cause. In short, vice in the theatre must wear the garb, assume the name, and claim the reward of virtue.

" How strong a confirmation of this have we from experience? Have not plays, in fact, commonly turned upon the characters most grateful, and the events most interesting to corrupt nature? Pride, under the name of greatness of mind—ambition and revenge, under those of valour and heroism—have been their constant subjects: but chiefly love; this, which is the strongest passion, and the most dangerous in the human frame, and from which the greatest number of crimes, and

Crimes the most atrocious, have sprung, was always encouraged upon the stage. There women are swelled with vanity, by seeing their sex deified and adored: there men learn the language, as well as feel by sympathy, the transports of that passion; and there the hearts of both are open and unguarded to receive the impression, because it is covered with a mask of honour. Hath this, then, been only the case at particular times of occasional corruption, or for want of a proper regulation of the stage? No, it is inseparable from its constitution. Such hath been the nature and tendency of plays in all former ages, and such, from the taste and disposition of those who attend them, it is certain they will for ever continue to be.

"Another argument, which shows the stage to be an improper method of instruction, or rather that it is pernicious and hurtful, may be drawn from its own nature. In its most improved state it is a picture of human life, and must represent characters as they really are. An author for the stage is not permitted to feign, but to paint and copy. Though he should introduce things or persons ever so excellent, if there were not discerned a resemblance between them and real life, they would be so far from being applauded, that they would not be suffered, but would be condemned as a transgression of the fundamental rules of the art. Now, are not the great majority of characters in real life bad? Must not the greatest part of those represented on the stage be bad? And, therefore, must not the strong impression which they make upon the spectators be hurtful in the same proportion?

"It is a known truth, established by the experience of all ages, that bad example has a powerful and unhappy influence upon human characters. Sin is of a contagious and spreading nature, and the human heart is but too susceptible of the infection. This may be ascribed to several causes, and to one in particular which is applicable to the present case, that the seeing of sin frequently committed must gradually abate that horror which we ought to have of it upon our minds, and which serves to keep us from yielding to its solicitations. Frequently seeing the most terrible objects renders them familiar to our view, and makes us behold them with less emotion. And from seeing sin without reluctance, the transition is easy to a compliance with its repeated importunity, especially as there are latent remaining dispositions to sinning in every heart that is but imperfectly sanctified. It will be difficult to assign any other reason why wickedness is always carried to a far

greater height in large and populous cities than in the country. Do not multitudes, in places of great resort, come to perpetrate, calmly and sedately, without any remorse, such crimes as would surprize a less knowing sinner so much as to hear of? Can it, then, be safe to be present at the exhibition of so many vicious characters as always must appear upon the stage? Must it not, like other examples, have a strong, though insensible influence; and, indeed, the more strong, because unperceived?

"Perhaps some will say—This argument draws very deep—it is a reproaching of Providence, and finding fault with the order which God hath appointed, at least permitted, to take place in the world, where the very same proportion of wicked characters is to be seen. But is there not a wide difference between the permission of any thing by a wise, holy and just God, or its making part of the plan of Providence, and our presuming to do the same thing without authority, and when we can neither restrain it within proper bounds, nor direct it to its proper end? There are many things which are proper and competent to God, which it would be the most atrocious wickedness in man to imitate. Because it is both good and just in God to visit us with sickness, or to take us away by death when he sees it proper, would it therefore be lawful in us to bring any of them upon ourselves at our own pleasure? I should rather be inclined to think, that these sportive representations on the stage, instead of being warranted by their counterpart in the world, are a daring profanation, and, as it were, a mockery of Divine Providence; and so to be considered in a light yet more dreadful than any in which they have been hitherto viewed. Besides, it ought to be remembered, that though evil actions, as permitted, make a part of the will of God, yet, hitherto, all who deserve the name of christians have affirmed, that what is sinful in any action is to be ascribed to the will of the creature as its adequate cause; and, therefore, exhibiting human actions and characters upon the stage is not only representing the works of God, but repeating the sins of men.

"I cannot help here calling to mind the anxious concern which wise and pious parents usually show for their children, on account of the snares to which they are unavoidably exposed in an evil world. How carefully do they point out, and how solemnly do they charge them to shun the paths in which destroyers go! They use this caution with respect to the world, even as under the government of God; and in so

doing they follow the example of their Saviour, who, in the prospect of leaving his disciples, after many excellent advices, puts up for them this intercessory prayer: ‘And now I am no more in this world, but these are in the world, and I am come to thee. Holy Father, keep through thine own name those whom thou hast given me, that they may be one as we are. I pray not that thou shouldst take them out of the world, but that thou shouldst keep them from the evil.’ John xvii. 11, 15. Can any expect that this prayer will be heard in their behalf, who are not content with seeing the world as it is ordered by a wise and holy God, but must see it over again, in a vile imitation, by a sinful man.

“ It will probably be said that this strikes as much against history, at least the writing and reading of human, commonly called profane history, as against the writing and seeing of dramatic representations. But the cases are by no means the same: the knowledge of history is, in many respects, necessary for the great purposes of religion. Were not this the case, there would be little difficulty in admitting the consequence. Perhaps, even as it is, it had been better for the world that several ancient facts and characters, which now stand upon record, had been buried in oblivion. At any rate, it may be safely affirmed, that romances and fabulous narrations are a species of composition from which the world hath received as little benefit, and as much hurt, as any that can be named, excepting plays themselves, to which they are so nearly allied. The first are only exceeded by the last as to their capacity of doing mischief by the circumstances of action, and the presence, at once, of so many persons, among whom, by mutual sympathy, the spiritual poison spreads faster, and penetrates deeper.

“ Lest it should be pretended that such a turn is given to things in the representation, as that, though the greatest part of the actions represented are ill in themselves, yet vice is reproached or ridiculed, virtue set upon a throne, rewarded and honoured—let it be called to mind that, as has been shown above, the author is not left at liberty to do in this as he pleases. He must gratify the public taste, and the rules he is obliged to observe have rather the contrary effect: for he must divest his bad characters of what is most horrid and shocking, and present them less deformed than they really are. Besides, though he may conceal a part, he must not alter nature as far as he goes, but take it as he finds it. Accordingly some of our modern critics tell us, that there ought to be

no particular moral in a dramatic performance, because that is a departure from nature, and so not in taste.

"It ought not to be forgotten, that attending dramatic representations is not only seeing a great plurality of bad characters without necessity, and seeing them with patience, but it is seeing them with pleasure. Whether or not entertainment be yielded to be the only or ultimate effect of plays, surely it cannot be denied to be one effect sought and expected from them, and from every part of them. An actor is as much applauded, and gives as much pleasure to the spectators, when he represents a bad character to the life, as a good. Is there no danger, then, that a heart, softened by delight, should be more liable to infection from evil than at other times? Is there no danger that an association should be formed in the mind between the sense of pleasure and the commission of sin? Will any person affirm, that in such circumstances he feels that holy indignation against sin which every christian ought to conceive upon seeing it committed? or that he is able to preserve that awe and fear which he ought to have of the just judgment of God, when he sees the crimes that merit it boldly re-acted, and finely mimicked in a personated character?

"So far is this from being the case, that every person attending the representation of a play, enters, in some measure himself, as well as the actors, into the spirit of each character, and the more so the better the action is performed. His attention is strongly fixed, his affections are seized and carried away, and a total forgetfulness of every thing takes place, except what is immediately before him. Can the various passions be so strongly excited as they are sometimes known to be, and no effect remain? Will not the passion of love, for example, after it has been strongly felt by the spectator in sympathy with the actor, be a little more ready to recur, especially as nature prompts, and various soliciting objects are daily presented to his eye? The author terminates his plot as he sees best, and draws what conclusions he thinks proper from his characters, but he has no reason to think that he can controul the passions which he raises in the spectators in the same manner, and not suffer them to exceed the bounds of his description: Will not the passion of revenge, that right hand of a false greatness of mind, after it has been strongly excited in the theatre, be apt to rise again upon every real or supposed provocation? Some learned observers of nature tell us, that every passion we feel causes a new modification of the blood and

spirits. If there is any truth in this, then every passion excited in the theatre, takes possession, for a time, of the very animal frame, makes a seat to itself, and prepares for a speedy return."

2. *Ecclesiastical Characteristics, or the Arcana of Church Policy: being an humble attempt to open up the Mystery of Moderation, &c.*

It is generally known, that, in the Church of Scotland, there are two great parties, the *orthodox* and the *moderate*. Of the former party, Dr. W. before he came to America, was an active and distinguished member. The *Ecclesiastical Characteristics*, then published without his name, but since avowed by him, were intended to satirize certain principles and practices with which the clergy of the latter were chargeable.

Dr. W. here appears in a character in which we have not before seen him. He wields the weapons of *wit* and *satire* with a dexterity and force which evince rare talents in that way. And although, without some previous information respecting the objects of his satire, the whole of the performance will not be perfectly intelligible; yet the most careless and uninformed reader will discover, in this performance, a degree of comic and satirical power not often to be found in union with that solidity of judgment and profundity of reasoning to which the venerable author had the best claims.

3. *The History of a Corporation of Servants,*

Annexed to the *Ecclesiastical Characteristics*, is another satirical work, directed against the same objects.

4. *Lectures on Moral Philosophy.*

Of these *Lectures* the editor gives the following account:

"In justice to the memory of Dr. Witherspoon, it ought to be stated that he did not intend these lectures for the press, and that he once compelled a printer who, without his knowledge, had undertaken to publish them, to desist from the design, by threatening a prosecution as the consequence of persisting in it. The Doctor's lectures on morals, notwithstanding they assume the form of regular discourses, were, in fact, viewed by himself as little more than a syllabus or compend, on which he might enlarge before a class at the times of recitation; and not intending that they should go further, or be otherwise considered, he took freely, and without acknowledgment, from writers of character, such ideas, and, perhaps, expressions, as he found suited to his purpose. But though these causes would not permit the Doctor himself to give to

the public these sketches of moral philosophy, it is believed that they ought not to operate so powerfully on those into whose hands his papers have fallen since his death. Many of his pupils, whose eminence in literature and distinction in society give weight to their opinions, have thought that these lectures, with all their imperfections, contain one of the best and most perspicuous exhibitions of the radical principles of the science on which they treat, that has ever been made, and they have very importunately demanded their publication in this edition of his works. Nor is it conceived that a compliance with this demand, after the explanation here given, can do any injury to the Doctor's reputation. And to the writer of this note it does not seem a sufficient reason that a very valuable work should be consigned to oblivion, because it is in some measure incomplete, or because it is partly a selection from authors to whom a distinct reference cannot now be made."

To the above candid and just remarks we shall only add, that although the learned reader will not find much that is wholly new in these lectures, yet he will find very distinct traces of that intellectual vigour, and of that spirit of accurate and wary investigation, which we have before represented as characterizing the author's writings.

5. *Lectures on Eloquence.*

This part of the volume is also a posthumous publication; and the same strain of apology may be applied to it as the editor thought proper to offer in behalf of the *Lectures on Moral Philosophy*. In these discourses on eloquence Dr. W. takes a wide field, and introduces many remarks on literary taste, composition, and criticism in general, in which he displays no small share of sagacity, taste and learning. As they are evidently unfinished, or rather are to be considered heads of lectures than complete compositions, we shall not attempt to examine them with critical care. We are glad that they have not been withheld from the public: and although such of our readers as have perused the celebrated Lectures of Dr. BLAIR, will probably pronounce Dr. W.'s inferior to them in fulness, accuracy, and systematic arrangement; yet, in some other respects, the venerable President falls nothing short of his illustrious countryman, if he do not exceed him.

6. *Letters on Education.*

These *Letters* were first published, many years ago, in a periodical work. They have since appeared from the press in various forms. It is probable, therefore, that the most of our

readers are acquainted with them. They discover a habit of close and acute observation, an intimate knowledge of human nature, and much original thinking.

7. *An Essay on Money as a Medium of Commerce, with Remarks on the Advantages and Disadvantages of Paper admitted into general Circulation.*

Though this essay was written and published in the form of a pamphlet, some years since, when so strong a disposition existed in the United States to emit large sums of paper money, and though it was intended to answer a particular and temporary purpose, yet it contains views on the subject of money so general and luminous, that we consider it abundantly worthy of being preserved and studied. The following are the doctrines which Dr. W. here teaches, summed up by himself, at the close, in single propositions:

" 1. It ought not to be imputed to accident or caprice, that gold, silver and copper formerly were, and the two first continue to be, the medium of commerce; but to their inherent value, joined with other properties, that fit them for circulation. Therefore, all the speculations, formed upon a contrary supposition, are inconclusive and absurd.

" 2. Gold and silver are far from being in too small quantity at present for the purpose of a circulating medium in the commercial nations. The last of them, viz. silver, seems rather to be in too great quantity, so as to become inconvenient for transportation.

" 3. The people of every nation will get the quantity of these precious metals that they are entitled to by their industry, and no more. If, by any accident, as plunder in war, or borrowing from other nations, or even finding it in mines, they get more, they will not be able to keep it. It will in a short time find its level. Laws against exporting the coin will not prevent this. Laws of this kind, though they are still in force in some nations, supposed to be wise, yet are in themselves ridiculous. If you import more than you export, you must pay the balance, or give up the trade.

" 4. The quantity of gold and silver at any time in a nation is no evidence of national wealth, unless you take into consideration the way in which it came there, and the probability of its continuing.

" 5. No paper of any kind is, properly speaking, money. It ought never to be made a legal tender. It *ought* not to be forced upon *any* body, because it *cannot* be forced upon *every* body.

" 6. Gold and silver, fairly acquired, and likely to continue, are real national, as well as personal wealth. If twice as much paper circulates with them, though in full credit, particular persons may be rich by possessing it, but the nation in general is not.

" 7. The cry of the scarcity of money is generally putting the effect for the cause. No business can be done, say some, because money is scarce. It may be said with more truth, money is scarce because little business is done. Yet their influence, like that of many other causes and effects, is reciprocal.

" 8. The quantity of current money, of whatever kind, will have an effect in raising the price of industry, and bringing goods dearer to market: therefore the increase of the currency in any nation, by paper, which will not pass among other nations, makes the first cost of every thing they do greater, and, of consequence, the profit less.

" 9. It is, however, possible, that paper obligations may so far facilitate commerce and extend credit, as, by the additional industry that they excite, to over-balance the injury which they do in other respects. Yet even the good itself may be over-done. Too much money may be emitted even upon loan; but to emit money any other way than upon loan, is to do all evil and no good.

" 10. The excessive quantity of paper emitted by the different States of America, will probably be a loss to the whole. They cannot, however, take advantage of one another in that way. That State which emits most will lose most, and *vice versa.*

" 11. I can see no way in which it can do good but one, which is, to deter other nations from trusting us, and thereby lessen our importations; and I sincerely wish, that in that way it may prove, in some degree, a remedy for its own evils.

" 12. Those who refuse doubtful paper, and thereby disgrace it, or prevent its circulation, are not enemies, but friends to their country."

8. Letters on Marriage.

These, as well as the letters on *education*, have been before published in various forms. The character we gave of those may, without alteration, be applied to both.

9. A Pastoral Letter from the Synod of New-York and Philadelphia, to the Congregations under their Care, &c.

We should not take notice of this short address, were it

not for the purpose of observing that there is an utter impropriety in its being introduced into this collection. When a letter of this kind comes from a public body, it is to be considered the act of that body, and not of the individual or individuals who drew it up, and who are sometimes directed, by the vote of a majority, to express sentiments, and to use a language which they would not themselves have chosen. The survivors of distinguished men discover an indiscreet zeal to preserve and record their writings, when they seize upon every scrap, however small, which is known to come from their pen. The *Pastoral Letter* under consideration is well written; but it was scarcely worth while, if not indecorous, to claim it as the production of our author.

10. *Recantation of Benjamin Towne.*

This little satirical and amusing performance was first published in a newspaper, in 1778. It closes the *third* volume, in the perusal of which we have found much instruction and entertainment. And it is but justice to say, that as we have proceeded in the examination of Dr. W.'s writings, we have gained a higher respect both for his talents and his virtues.

(*To be continued.*)

ARTICLE VI.

The Wanderings of William, or the Inconstancy of Youth; being a Sequel to the Farmer of New-Jersey: A Tale.
By the Translator of Bonaparte's Campaign, Author of *Ferdinand and Elizabeth*, and Poems written chiefly in South-Carolina. 12mo. pp. 229. Philadelphia. R. T. Rawle. 1801. *R. John Davis. b. 1776.*

THE "Farmer of New-Jersey," to which this work is called a sequel, was noticed in the first number of our Review, page 83. In that production of Mr. Davis we discovered little worthy of praise; in the present one we find nothing but what is deserving of ridicule, reprobation, or contempt.

He sets out in his preface with sagaciously remarking, "that the reading of the present age is confined nearly to novels; that the shelves of our circulating libraries groan under the weight of excessive sensibility—" "Female Frailty," "Love at

first Sight," and the "Children of the Abbey;" or they require the aid of the carpenter to support the burden of the "Cottage Moor," the "Man in the Moon," and the "Castles of Athlin and Dunbayne."

Having made this important discovery, and drawn this ingenious picture of modern libraries, Mr. D. profoundly remarks, that if the females of the present century be more enlightened than those of the last, they owe their accession of knowledge to novels. He then pathetically laments that the life of a human being "*should now be lost in brushing spiders from the ceiling, polishing the enamel of a tea-cup, and sympathizing in its fall from the shelf,*" when the world abounds with so many instructive novels.

The author then proceeds to show in what particulars his novel differs from those he has mentioned; and, after pointing out certain deficiencies of SMOLLET, FIELDING, ROUSSEAU, CUMBERLAND, &c. explains in what manner his book is an improvement on them all.

But to the story:—William the wanderer, the son of a Jersey farmer, sails from America on a voyage to Smyrna, leaving his wife *Serena* weeping on the shore. Three weeks afterwards he falls in with an Algerine corsair, kills the commander with his own hand, and instantly falls in love with a beautiful Turkish girl whom he finds sitting pensively in the cabin of the captured ship. After caressing the lovely *Zorayda*, and "swimming in torrents of delight," he arrives at Cadiz, shares the prize money, and gives a splendid entertainment, at which "the most distinguished ladies of Cadiz did not withhold their presence." This brilliant band of "Spanish grandees" then make a visit to the wanderer on board his own ship; and, while the company are regaling themselves on the deck, under a "canopy of white silk," the beautiful *Zorayda*, who had previously accused the excentric William of "*having been with some nasty creature on shore,*" now becomes furious with jealousy on seeing him pay too much attention to one of the ladies. The "lovely innocent" can no longer restrain her passion: she breaks through the circle of "Spanish grandees," flies at *Donna Caltha*, and slaps her face. The divine *Caltha* returns the blow with becoming spirit—the battle rages, and the tatters of caps, robes and muslins, bestrew the deck of the *good ship Raritan*. William the wanderer tries to pacify his lovely *Zorayda*: she spits in his face, and then bawls out to the "Spanish grandees," that she is not the wife of William; that he debauched her; and that now, to harrow up his soul,

she is ready to prostitute herself to any man on deck—"Come on, Don Antonio! Come on, Don Francisco!" The Spanish noblemen and the fair visitants are much shocked at this proposal. The ladies cry out for hartshorn, and beg for mercy's sake to be carried into the cabin. But nothing can equal the rage of Zorayda on being rejected. She runs to the forecastle, and jumps into the ocean. One half of the ship's crew immediately strip themselves, and flounce about in the water to catch the diving beauty. They at length seize her, and lay her on the deck. She disgorges a quantity of salt water, and then expires in the arms of the disconsolate William.—But here we must positively stop.

This portion of the "Wanderings of William" must suffice for a specimen of Mr. D.'s talents at novel writing. We at first undertook to frame a short abridgment of the whole story, in order to save our readers the trouble and disgust which every person of delicacy must endure in perusing the original: but the nauseousness of the task overcame our benevolence. Those who are still disposed to believe that the genius of Mr. D. is capable of any thing refined, elevated or interesting, may satisfy their expectations by recurring to the book itself.

A greater number of unnatural incidents and improbable circumstances were, perhaps, never before jumbled together in one story. Not a single character presents itself, with which virtue, wit or refinement have any connection. His heroes and heroines are nothing better than a group of adulterers, gamblers and prostitutes. In the character of his favourite sailor we do not perceive one manly or consistent trait; and yet, in his preface, he dares to boast, that he alone, of all other writers, has depicted in his hero the character of the mariner with "justness of colouring." It is scarcely characteristic of a legitimate and thorough-bred son of Neptune to write elegies, to quote Ovid and Virgil, to refer to Pliny and Cicero, and converse with chemists about azote and the decomposition of water.

In short, the *Wanderings of William* amount to nothing more than the adventures of a couple of vagabond seamen, who, with a pair of trulls picked up in a Spanish harbour, go roving from port to port, for no other ostensible purpose than to protract the scene of their debaucheries on ship-board, and their bacchanalian revels on shore. Such a narrative will, no doubt, be found suitable to the taste of the tenants of the

forecastle, and delightful to the imaginations of the frail sisters of the suburbs; but common sense and decency will revolt at it, and brand the publisher with an epithet harsher than *impudence*.

ARTICLE VII.

Considerations on the Substance of the Sun. By Augustus B. Woodward. 8vo. pp. 90. Washington. Way & Groff. 1801.

WE noticed (p. 240) a production of a political nature from the pen of this writer. He now appears before us in the more dignified garb of a philosopher. Leaving the humble and laborious path of experimental inquiry, he has soared at once into the sublimest regions of conjecture. On a subject so abstruse and recondite, we naturally expect to be amused with some extravagant fancy, some of those wild conceits of the brain, in which great men often indulge on subjects beyond the reach of human intellect to fathom or explain. Whether the *hypothesis* of Mr. Woodward is entitled to more respect than those of other philosophers, will best appear from an attentive perusal of his pamphlet. Without further preliminary, then, we shall proceed to the examination of this performance, in which that hypothesis is unfolded.

Meaning to advance "an hypothesis *perfectly new*," Mr. W. has thought proper to collect and examine the opinions which have heretofore prevailed in the philosophical world, in relation to this subject. He first exhibits the opinions of the *ancients*, who, he observes, were more inclined to *conjecture* than *proof*, and contented with *probability* without expecting *certainty*. "Such a disposition tends to enervate the mind, and gives rise to wild and inconsistent theories, which, in a more enlightened and correct age, are exploded without effort." This observation is, perhaps, just; and it cannot be denied, that in all mechanical and experimental philosophy the *moderns* very far surpass the *ancients*. But how much the former have been indebted, in astronomical and mathematical science, to such men as ANAXAGORAS, PYTHAGORAS, EUDOXUS, ARCHIMEDES, HIPPARCHUS, EUCLID, &c. is well

known to those who are acquainted with the history of those sciences. And concerning the subject before us, the substance of the sun and stars, we see little difference in the *conjectures* of THALES or NEWTON, ANAXIMANDER or DARWIN.—But to proceed.

The philosophers of antiquity, whose opinions Mr. W. has detailed, are THALES, ANAXIMANDER, ANAXIMENES, DIogenes of Appollonia, ANAXAGORAS, DEMOCRITUS, EURIPIDES, METRODORUS, PLATO and LUCRETIUS. Their notions were, that the sun was *an earthy substance, continually red hot—an interior sphere of opaque matter, surrounded with an exterior sphere of fire—a large mass of red hot iron or stone—or a mass of gold.* This account of the opinions of the ancients is stated by Mr. W. as taken principally from PLUTARCH and DIOGENES LAERTIUS. We refer the less learned reader, who may be curious to pursue the inquiry further, to Enfield's History of Philosophy, taken from Brucker's Historia Critica Philosophiae.

Passing by the philosophers who have flourished in the intermediate periods, and in more distant countries, Mr. W. proceeds to exhibit the opinions of the *moderns*. Of these he enumerates BACON, DES CARTES, NEWTON and HERSCHELL, as most entitled to attention for their theories of the universe.

From this inquiry it appears that the most natural and popular, as well as the most universal notion concerning the substance of the sun, has been that it was *fire*. Our author then goes on to trace the origin of the idea of fire, and the consequent division of matter by the ancients, into *four elements*. This leads him to explain the discoveries of modern chemists relative to the elements, to phlogiston, theory of combustion, &c. in which the opinions of STAHL, PRIESTLEY, DARWIN and others, are successively explained. He adverts (p. 20), among the rest, to a very eccentric idea of Dr. ELLIOT, which appeared on his trial at the Old Bailey in 1787, for shooting at Miss Boydell.

After this formal review of the opinions of different men, at different ages, and in different countries, Mr. W. at length proposes his own hypothesis, which is, *that the substance of the sun is ELECTRON*. In the introduction and use of the term *electron*, instead of the *electric fluid*, Mr. W. pleads, in his own justification, the example of those chemists who have reformed the nomenclature of their science.

"Believing," he observes, "the materiality of the substance

of which I speak, and its existence as a distinct and elementary substance, not generated from, or compounded of, any other matter known to us, and desirous of considering this substance in consistency with these positions, abstracted from any effects it really does, or is supposed to produce; it is necessary to find a term distinguishing the matter or substance itself from the mere effects of its presence, its motion, or any other affection of it. This the present nomenclature of the science to which it belongs does not afford; and, therefore, a term is selected for that purpose as analogous to existing terms as can be formed.

"For these reasons I shall use the term *electron* to designate the matter itself which is here spoken of, contemplating it as an elementary substance, not compounded of any other substances presented to our observation upon this earth; the term *electric*, as the correlative adjective; the term *electricity*, when speaking of the effects produced by the presence of electron, or when speaking of our knowledge of electron as a systematized science; the term *conducting substance*, to express those bodies through which electron passes readily, without any, or with little resistance; and the term *excitable substance*, to express those bodies by means of which an accumulation of electron is artificially procured."

Pleased, as we always are, with every thing which looks like improvement in science, we shall not "indolently inveigh against all innovation in language." And very far be it from us to think, that "he who, in the attempt to enlarge the boundaries of knowledge, has committed an error, is to be consigned to ridicule, to execration, and to infamy." It cannot be denied that every substance ought to be denoted by a name, rather than a phrase or phrases. In the selection of a name, regard should be had to that which expresses the nature or the distinguishing property of the thing signified. The one chosen by Mr. W. is the Greek word *ηλεκτρον*, a name for the substance called *succinum*, or amber, in which the electric phenomenon was first observed by THALES. It expresses the substance called amber, which possesses the property, when rubbed, of attracting light bodies. It does not signify that other independent, distinct and elementary substance which is emitted from an electric body. The same property of attracting light bodies was observed by THEOPHRASTUS in the *lyncurium*, or stone now called *tourmalin*. As well, therefore, might Mr. W. have taken his term from *tourmalin*, *glass*, *sealing-wax*, or any other electric body, to

convey an idea of that substance called *electric fluid*. If the term *electron* be tried according to the rules established by the French chemists in forming their new vocabulary, it will be found deficient. When heat was thought to be a substance or subtle fluid which caused warmth, it was at first termed the *igneous fluid*, or *matter of heat*; on reforming the nomenclature, it was thought proper to give to this fluid the name of *caloric*, its great and distinguishing property being the power of causing *warmth*, or sensible heat. So, when atmospheric air was found to be composed of different substances, that portion whose characteristic property was the producing of *acid*, was denominated *oxygen*, or the *acidifying* principle. So difficult, however, is it always to find precise and significant terms of science, even in the dead languages, that with all the labour and ingenuity of the learned authors of the new language of chemistry, their nomenclature remains, on their own principles, imperfect.—We have no objection to substitute the word *electron* for the phrase *electric fluid*; but this would be more for the sake of brevity than because the new term added any thing to our knowledge of the substance. The student of electricity is not assisted in his attempt to gain an idea of that subtle matter, by being informed that it is *electron*, if he, at the time, is referred to its etymology for the meaning of the word. Had Mr. W. intended to have reformed the terms of electricity on philosophical principles, he should have selected a term expressive of the peculiar character of the substance, or its most distinguishing property. Until that is ascertained, any arbitrary, unmeaning word, is sufficient for a name; and we are content to take *electron* for want of a better, but not as denoting any *improvement* in the science itself.

After this endeavour to fix the terms of electricity, our author proceeds to give an *historical* account of the science. Having mentioned the discoveries of THALES and THEOPHRAS-TUS, already noticed, we pass over a wide interval of time without any further information, until we arrive at the seventeenth century. From that period we are presented with a more rapid succession of discoveries, made by GILBERT, GUERICKE, BOYLE, NEWTON, HAWKSSEE, GREY, DU FAY, VAN KLEIST, CUNÆUS, FRANKLIN, DALIBARD and others.—This historical part is concluded by a *poetical description* of the electric phenomena from the “*Botanic Garden*” of Dr. DARWIN. The history of electricity is so familiar to every

votary of the science, that we forbear to give any summary of the facts related by Mr. W.

The next object of the author is to "exhibit an enumeration of the most remarkable phenomena in nature in which the presence of *electron* is manifested." These are *lightning* and *thunder*, the *aurora borealis*, *luminous meteors*, *earthquakes*, the electrical properties of the *gymnotus* and *torpedo*, the *artificial accumulation of electron* on the surface of excited bodies, by means of machines, and the appearance and effects of such accumulation. In all these instances is *electron* subjected to the senses of mankind. He then adduces the leading considerations on which his hypothesis is maintained, first stating the following preliminary position:

"Where two substances, subjected to the senses of man in the same, or in different modes, correspond in all the properties and effects which are susceptible of observation in each, and differ in no property or effect which is susceptible of observation in each, those two substances may and ought to be affirmed to be the same substance."

"If, therefore, in the course of the succeeding investigation it should appear that the substance of the sun and electron correspond in all the properties and effects which are susceptible of observation in each, and differ in no property or effect which is susceptible of observation in each, the substance of the sun and electron may and ought to be affirmed to be the same substance."

The "first consideration" of Mr. W. and the reasonings connected with it, form so important a part of the foundation of his *hypothesis*, that we shall, for the satisfaction of our readers, present them in his own words. In doing this we must risk the displeasure of *the author*, who has requested all editors of magazines, &c. to respect his copy-right, and not to "insert the whole or any part of his work in their publications."

"The first consideration which I shall adduce as a proof of the identity of the substance of the sun and electron, is that most remarkable property which the sun possesses of *permanently producing, or emitting, light and heat*, in vast quantities, and in all directions.

"If the property which the sun possesses of permanently producing or emitting light and heat, were the effect of an evident combustion of the matter of its own body, or of other foreign matter; the astonishment which this property occasions

would cease. Our curiosity would then only be excited to know when, if it was a real combustion of the matter of its own body, a total consumption of that matter would take place, and a dissolution of the system follow; or if it was a real combustion of other foreign matter, whence that foreign matter which fed and kept it alive was afforded, and what limitation was fixed to the supply of it.

" In hostility to the former position, that the light and heat produced by, or emitted from the sun, are the effect of *a real combustion*, the following difficulties may be opposed:

" Is this combustion a combustion of the matter of the sun itself; or is it a combustion of other foreign matter?

" If it be a combustion of the matter of the sun itself, why does not the magnitude of the sun constantly decrease, as the matter of it is consumed, until it becomes finally extinct?

" If it be a combustion of foreign matter, why are we not able to observe the application of those immense supplies which such a fire must require; why does not the fire burn with greater intensity after a fresh supply of fuel is applied; and why does it not diminish in splendour when such supply of fuel is consumed?

" Whether it be a combustion of its own, or of foreign matter, why does it exhibit no *smoke*; why does it exhibit no *flame*; why is there not found a sensible current of *oxygene*, from all parts of the system, to supply the consumption; why is there no appearance of *calx* or of *ashes*, as the residuum of the combustion?

" To the position that the light and heat produced by, or emitted from the sun, are the effect of a real combustion, the preceding will ever apply as insuperable objections.

" Let us examine then the opinion entertained by Newton, that the light and heat produced by, or emitted from the sun, are the effect of the existence of an intense heat in the matter of the sun, without combustion.

" In order to appreciate this opinion correctly, it will be necessary to know what was the prevalent theory of heat at the æra of Newton, and what was the theory he himself adopted.

" The dispute whether heat was only an affection of bodies, or a real substance itself added to them, had prevailed in the literary world previous to the æra of Newton.

" Bacon, Boyle and Newton, the three most distinguished investigators of science in Britain previous to the great disco-

veries in chemistry, all adopted the opinion, that heat was not material, and that it was merely an affection of bodies.

"The contrary opinion is so far from being unanimously received, that Priestley, Rumford, and Davy, three modern names of great celebrity, still adhere to the same opinion.

"The idea of *small indivisible atoms*, appears not to have been entirely abandoned in the scientific systems, which prevailed in the age of Newton. The term *particles of bodies* was in frequent use, in a sense which men of literature at present would not receive as correct. The expression indeed, as now used, is not free from obscurity and ambiguity.

"It was to a violent internal motion and agitation of these particles that Newton attributed the phenomenon of heat. The truth or falsity of the supposition it is unnecessary to investigate; but it is necessary to examine it, as connected with the conjecture of Newton, that the sun was *a great earth made vehemently hot*.

"By an earth then made vehemently hot, we are to understand, in the sense of Newton, *an earth whose particles were in the most violent internal motion and agitation*.

"Two difficulties were then necessary to be accounted for; why the parts of this great earth, thus vehemently hot, did not, as in all other instances, separate and disperse themselves; and why the heat was lasting and permanent.

"The first difficulty he met by presuming that this great earth, thus vehemently hot, was surrounded by an atmosphere of such vast *weight* and *density* as to prevent its parts from fuming away.

"Here then it becomes necessary, before we proceed, to obtain a correct idea of the terms *density* and *weight*. In speaking of an atmosphere of vast *density* and *weight*, he could only be construed to mean, in other equivalent words, an atmosphere, the attraction of the parts of which to one another was very great, and the attraction of this great earth to which was also very great; for no other definitions can be given of the terms *density* and *weight*.

"Thus it was necessary to surround this great earth, vehemently hot, with a substance which could scarcely be termed an atmosphere, since it must have been, at the surface of the sun, *infinitely more solid than glass*; to prevent the attraction of its parts to one another from being overcome by the most intense heat which the imagination can conceive. It was necessary to presume, this substance, though so dense, and so

impervious to all other matter, to be permeable by light. It was necessary to presume that this substance, so dense that the most intense heat which can be conceived could not separate its parts, would, notwithstanding, permit that heat to operate through itself upon other matter; and that so strongly, that the comet which passed round the sun in the year 1680, was heated in its perihelion *two thousand times hotter than red-hot iron.* It was necessary, lastly, to presume that this light, and this heat, thus produced through this dense substance, occasioned no diminution of the matter of the great earth, thus vehemently hot; or, that in order to supply such diminution, the substance of a comet could enter this dense substance, pass through it, and become incorporated with the mass of hot earth which it enclosed.

" This supposition of the sun being a great earth, vehemently hot, is so analogous to the ancient idea of its being a mass of earth, stone, or iron, red-hot, that if we only add clearly the idea of sphericity, it becomes the same.

" The second difficulty attending the conjecture of Newton cannot be properly understood, unless we determine by what means, according to his theory of heat, a body once heated, could ever become cool.

" If heat be only an affection of a body, occasioned by a violent internal motion and agitation of its parts, then it is evident that on the cessation of that motion, the body would cease to be hot, or, in other words, would become cool.

" Now it is a law of motion, that when once communicated, it is never destroyed but by some opposite force.

" In a body heated upon the surface of our earth, two sources of such an opposite force may be assigned; the one the attraction of the matter of the earth upon the matter of the particles thus in motion, thereby ultimately bringing them to a state of rest; the other, the attraction of the particles of matter thus in motion upon one another terminating in the same effect.

" Upon this great earth, thus vehemently hot, the first cause could have no operation.

" The second cause must have, on the principles of Newton, an inevitable operation, unless some opposing cause can be assigned to overcome it.

" The only assignable cause to overcome this difficulty was *the prodigious action and re-action of the parts upon one another.*

" But the idea of a motion perpetually renewing itself, by

the force of its own action, in opposition to the force of attraction, is an inconsistency long since exploded from science. The utmost that can be said is, that the motion might be so violent, as not to be destroyed by the counter-power of attraction *for a very long time*; for either this, or the non-existence of any attraction whatever, must result from the hypothesis.

" Thus this hypothesis, though so ingenious, and worthy of so great a man, has in it insuperable difficulties; and it probably was in consequence of a perception of some of these difficulties, together with its being entirely assumed, and placed indeed totally beyond any verification by experiment, that he proposed it merely as a question, without attaching to any part of it the least degree of assertion.

" Evident, therefore, as it must be, that the light and heat of the sun are not maintained by combustion, nor occasioned by the existence of an intense heat, in a great earth, enveloped and confined in a transparent substance, so dense as to resist the effects of such a heat; and that the production or emission of light and heat is a power which that body possesses inherently, without any sensible consumption of its own matter, or any sensible intervention of foreign; we ought, instead of confining ourselves to so imperfect and inadequate a similitude as the process of combustion, to look around for some matter presented to us upon this earth, possessed of the same power of producing or emitting light and heat, and possessed of the power of producing or emitting them in the same manner, without any sensible consumption of its own matter, and without any evident foreign supply. If we can discover any such matter, then it will be rational to infer its similitude or identity with the matter of the sun: if we can discover no such matter, then we must necessarily infer that the substance of the sun is a matter *sui generis*, such as does not exist on our planet, or, if it should so exist, not yet presented to our knowledge.

" We shall find no substance upon this earth possessed of this power, exercised in the same manner, but electron only; and this does possess the same power, and exercises it in the same manner.

" Electron is always, whenever found existing by itself, whether in motion or at rest, possessed of the power of producing or emitting light and heat; and this production or emission is permanent and steady, without any flame, with-

out any *smoke*, without any sensible *consumption of its own matter*, without any apparent *supply of extrinsic fuel*, and *without any relation to the presence or absence of oxygen*.

"What, then, can the substance of the sun be, but this substance presented to us upon this earth, resembling it in so many important and unexampled particulars.

"A coincidence so exact, a harmony so complete, must be something more than accidental. It must have the same foundation in nature; and it strongly proclaims the identity of the sun and electron.

"This harmony will be the more striking, if we advert to the difference of circumstances under which the substance is presented to our observation in the two instances.

"In the sun the electron is accumulated into a large mass, too immense to be affected by all the matter in the solar system.

"On the earth, the small portions of it which we see are only *detachments* from a much larger mass, with which the body of the earth is charged, and which exists in the body of the planet as a conducting substance, without being luminous. When a small portion is accidentally or artificially detached from this mass, it possesses an irresistible tendency to return. It effects its return with a rapidity of motion which alarms and confounds us. The motion and *luminosity* cease on the junction. It is no longer subjected to our senses; and it is again by exertion that we must detach and arrest a small quantity of it for our experiments."

The second consideration adduced by Mr. W. in proof of the identity of the sun and *electron*, is derived from their *sensible appearances*. The sun appears to be a *dense luminous fluid*, of a colour generally inclined to blue. The substance is, from the spots visible on its surface, supposed to be *heterogeneous*. An account is then given of the discovery of the spots on the sun by GALILEO, their various and extraordinary appearances as observed by other astronomers, and these appearances are compared with the probable phenomena of such a body, if supposed to be electron. In these Mr. W. finds a most perfect coincidence, and an easy solution of all the difficulties which occur in accounting for the solar spots. The sun, when free from spots, appears like an *immense ocean of elementary fire*. If the sun be supposed in a state of *combustion*, bodies which should come into contact with its surface must be consumed and annihilated, or would become stationary, if their entrance into the sun was impeded by a

dense and weighty atmosphere. But “*electron* is found to contain no quality in hostility with other matter, as is exhibited in the process of combustion. It is not attended with the sensation of heat in its passage through the human body. It does not refuse the most intimate incorporation with water. It does not dissipate or destroy it; and, if passed through it in any quantity, and ever so often, it does not impart the least degree of heat to it. The lightest, the most combustible, and the most calcinable bodies, are presented to it, when in a state of rest, without any appearances of combustion or of calcination. It seems to operate no change whatever upon the state of other matter; but the communication of motion to it.”

That the electric fluid has no heat, nor produces any, is true only when it is at rest, or moving in a line without *divergence* or *convergence* from the centre; and this, we presume, is the meaning of Mr. W.

A further similarity between the sun and *electron* is remarked in the several colours they assume to the eye, and in their apparent density.

The third consideration in support of his hypothesis is derived from the *figure of the sun*, which is known to be *spherical*. The *sphericity* of a mass of *electron*, however difficult of proof, Mr. W. supposes to be verified by two remarkable accidents. The death of Professor RICHMAN, by an electric explosion in 1753, is well known. SOLOKOW, who was in the apartment at the time, observed a *globe of blue fire, as large as his fist, move from the instrument prepared by Richman to measure the electric fluid as drawn from the clouds, and enter the head of the Professor.*—The other fact is given without the name of the relator, or the time when it happened.

“A gentleman having charged, with a very powerful machine, a jar which had the wire that supported the knob of considerable length, and passing through a glass tube, a *globe of fire* was seen to issue out of it. This *globe* gradually ascended up the glass tube, till it came to the top of the knob, where it settled, turning swiftly on its axis, and appearing like a *red-hot iron ball of three quarters of an inch diameter*. On continuing to turn the machine, it gradually descended into the jar; which it had no sooner done than there followed a *most violent explosion and flash*, the jar being discharged and broken at the same time.

“This experiment, however, is singular in its kind; for neither the gentleman who performed it, nor any other, has yet been able to repeat it.”

It cannot, Mr. W. supposes, be ascribed to the pressure of the atmosphere, since there is no evidence whatever of the subjection of *electron* to the laws of other matter, or to a specific gravitation of the earth.

In the *property of attraction* Mr. W. finds a *fourth proof* of the identity of the substance of the sun and *electron*. After explaining the use of the term attraction, and the Newtonian theory on the subject, he draws a comparison between *solar* and *electric* attraction. Both operate on all surrounding matter in proportion to the respective quantities of the sun and any mass of electron; both produce *similar effects*, different only in degrees. Hence is inferred the *identity of the cause*. To illustrate this position, Mr. W. supposes a sphere of electron to be so placed in space as to remain *stationary*, that is, so *perfectly insulated* that it cannot pass into or through any other matter.

"Let us," he observes, "bring near it a body on which we have found, *by experience*, it exerts an attractive power; the matter of which shall bear the same proportion to the matter of the sphere of electron, as the matter of a planet may bear to the matter of the sun. To this body let a motion be communicated sufficient to carry it *its whole distance* further from the sphere of electron, in the same time that the attractive force of the sphere of electron would carry it to itself, if both these forces were acting separately. Newton, of Great-Britain, has solved the problem for us, that a body so circumstanced would continue, if undisturbed by any extraneous force, to revolve in the same orbit round the attractive body for ever."

The comparison between *terrestrial* and *electric* attraction is thus stated and illustrated:

"In order to have a perfect apprehension of the position, *that the earth exerts an attractive power on surrounding matter, by virtue of its being a conducting substance charged with electron*, we must again imagine a state of the most absolute and perfect insulation. This, a variety of causes, of which every experimentalist is aware, prevents our expecting upon the surface of this earth. Let us presume, however, as before, a sphere of conducting matter to be so placed in space, that when charged with electron, that electron will remain *permanently in it*, and the sphere itself be at perfect rest, undisturbed by any other matter. To such a sphere, thus placed, let such bodies be presented, as a conducting substance, charged with electron, is found, by experience, to exert a permanently

attractive power upon; and bearing to the whole mass no greater proportion than do the substances we can detach from the surface of the earth, to the whole earth. The effect will necessarily follow, that all such bodies, when, by occasional force, detached from the surface of the conducting sphere, will, as soon as that force is withdrawn, immediately return to it."

The objection to this position arising from the doctrine maintained by Newton and Herschell, that *all matter exerts an attractive power upon all other matter*, Mr. W. thinks obviated by the entire want of *evidence* to support the notion of those two philosophers; and by the known existence of specific attractions and affinities which have no relation to the general power of attraction belonging to all matter universally.

In the *fifth* place, Mr. W. after giving a view of the opinions of NEWTON, BUFFON, BOWDOIN, HERSCHELL and DARWIN, as to the cause of the centrifugal motions of the planets, which he regards as purely hypothetical and unsatisfactory, solves the great difficulty, and, at the same time, further supports his own conjecture, by supposing the sun to possess a *repulsive* as well as an *attractive* power.

He thinks it, indeed, extraordinary, that when a general attractive power is attributed to all matter, a correspondent *repulsive* power should not have been attributed to it. His reasoning on this point (p. 67) is ingenious.

The singular experiments of GREY and MORTIMER are next recited, as tending strongly to support the author's hypothesis. Mr. GREY, in 1729, supposed electric bodies possessed a constant attractive power, "by which small bodies might be made to move about large ones either in circles or ellipses, and those either concentric or eccentric to the centre of the large body about which they moved, so as to make revolutions about them." The experiment which he made for this purpose he related to Mr. MORTIMER on his death-bed, in the following words:

"Place a small iron globe, of an inch, or an inch and a half in diameter, on the middle of a circular cake of rosin, seven or eight inches in diameter, *greatly excited*; and then a light body, suspended by a very fine thread, five or six inches long, held in the hand, over the centre of the cake, will, *of itself*, begin to move in a circle round the iron globe, and constantly from west to east. If the globe is placed at any distance from the centre of the circular cake, it will

describe an ellipse, which will have the same eccentricity as the distance of the globe from the centre of the cake. If the cake of rosin be of an elliptical form, and the iron globe be placed in the centre of it, the light body will describe an elliptical orbit of the same eccentricity with the form of the cake. If the light body be placed in or near one of the foci of the elliptical cake, the light body will move much faster in the apogee than in the perigee of its orbit. If the iron globe is fixed on a pedestal an inch from the table, and a glass hoop, or portion of a hollow glass cylinder, excited, be placed round it, the light body will move as in the circumstances mentioned above, and with the same varieties.

"He added, further, that the light body would make the same revolutions, only smaller, round the iron globe, placed on the bare table, without any electrical body to support it; but he stated that he had not found the experiment to succeed if the thread was supported by any thing but a human hand, though he imagined any other animal substance would have answered the purpose."

It has been generally believed that the senses of Mr. GREY were deceived in his experiment; for, notwithstanding the repeated attempts of Mr. MORTIMER, he never succeeded but once, and then *no person was with him*. Though numerous trials have been made since, the truth of this experiment has never been verified, except very partially and unsatisfactorily, by MORGAN and ADAMS. It does not, therefore, afford that certainty or demonstration which is desired by Mr. W. to maintain his hypothesis.

The last consideration of our author is of a negative kind. It is that the *sun* and *electron* have been observed to differ in no properties or effects which are susceptible of notice by the senses. He then mentions various and opposite opinions concerning the operation of electric attraction in *vacuo*, which, however, are too uncertain to admit any useful conclusion. Some conjectural reasonings are added as to the *opacity* of electron in *vacuo* and *at rest*, and the quantity of matter at the surface of the sun and the earth, compared with the motion of a luminous portion of the electric fluid.

Mr. W. avoids any investigation of the theories of *light* and *heat*, because they are subjects extremely subtle and abstruse, and about which the greatest philosophers differ in opinion; and whether the sun is regarded as a sphere of *combustible matter in actual combustion*, or a sphere of *electron*, will not, he believes, affect the theories of light and heat.—

The theory in respect to the substance of the sun may be true, while that in relation to light and heat may be false.

The theories of light and heat, however, are so intimately connected with the subject of the *electric fluid*, that it may be doubted whether the one can be satisfactorily explained without examining the other. If the former present insurmountable difficulties, does not the latter offer obstacles of equal magnitude? The nature and operation of light have been subjects of curious speculation from the earliest ages. The great Newton unfolded its laws with that clearness and force which characterize all his writings. It is known, however, that he bestowed little or no attention on electricity.—Eminent philosophers, since his time, have supposed the *electric fluid*, and *elementary or solar fire*, to be one and the same substance, presented under different modifications; but whether *electron* be a modification of light, or light a modification of *electron*, has not yet been decided. Granting the *identity* of *electron*, light and heat, which many have supposed, the sun must be the great fountain and source of that mysterious substance. And when the various phenomena of light and electricity are considered, the transition from a belief in the identity of the cause, to the opinion that the substance of the sun is *electron*, was easy and natural. In the *History of Pestilence* (vol. ii. p. 309, &c.), its learned and ingenious author supposes the sun to be “the great electric of the system.” The principle of electricity is asserted to be a *non-gravitating and permanently elastic substance*, which acts by its own laws; and possessing a power of *repulsion* as well as attraction. NEWTON supposed all space filled with a subtle substance called *ether*. Had he lived at a subsequent period, Mr. WEBSTER believes that he would have admitted that this subtle substance was the electric fluid; since it is absurd to suppose that the bodies composing the solar system can revolve about a common centre, at an immense distance from each other, without some medium of connection. This medium, by which the planetary bodies influence one another, can be no other than “that subtle, elastic fluid, which constitutes the basis of fire, heat, light or electricity.” “Such a theory accords with the known properties of electricity, and affords a sublime idea of the magnificent structure of the universe.”

Count de TRESSAN, and others, had before conjectured that the electric fluid was the primary and immediate agent by which the system of nature is carried on with such order and harmony. Indeed, this opinion is the more probable, when

It is observed that almost all the sublime and wonderful phenomena of nature are more satisfactorily explained by means of this hypothesis than by any other which has yet been suggested. Hence the propriety of attempting, by some contrivances like those of Mr. MORGAN before noticed, to represent more perfectly, by means of the *electric fluid*, the *motions* of the planetary bodies.

Mr. W. profiting by these conjectures and experiments, has gone further in endeavouring to frame them into a *system*, supported by various analogies and probabilities, and as susceptible of demonstration by actual experiment.

In the examination of this theory, we might find abundant ground for comment; but this review is already so much extended, that we forbear to enter on this pathless ocean of doubts and conjectures. Nor do we feel confident that we should, by any remarks of our own, remove the veil which has hitherto concealed the nature of that mysterious principle which regulates the existence and motions of the universe.

To those who may ask why Mr. W. should have published such a train of hypothetical reasonings, without trying them by a single experiment, he makes the following answer:

" It would have been my further duty, before the promulgation of an hypothesis of such importance, to subject it to rigorous and satisfactory experiment, if either my leisure or my resources empowered me to do so. Not, however, in that situation, and, according to the indispensable condition of humanity, uncertain as to futurity, I am conscious, that if what I have advanced should be deserving of any examination, others, more fortunate, will endeavour to complete what I have necessarily left unfinished.

" If the fear of having embraced an erroneous opinion should induce a suppression of it, until the means of detecting its fallacy, or of conclusively demonstrating its truth, shall be placed in my power, the flame of life may be extinguished, and that period never have arrived. In all our conduct it is necessary to regulate our attempts less by our wish than by our ability, and consider more what is practicable than what would be desirable. In using the means that this peculiar opinion, if entitled to any attention, should not be totally useless to others, I have gone to the extent of my present ability, and have obeyed the injunction of the sage—‘ Whatsoever thy hand findeth to do, do it with thy might, for there is no work, nor device, nor knowledge, nor wisdom, in the grave whither thou goest.’"

Mr. W. concludes by pointing out the means of subjecting his theory to the test of actual experiment; and we do not hesitate to coincide with him in the belief, that “*when the eye of man shall behold a sphere of electron revolving on its own axis, and surrounded by spheres of other matter, which revolve both on their own axes and round the central sphere; and when to such primary bodies satellitary ones are added, which, revolving also on their own axes, and round their primaries, are with them carried round the common centre; then will full conviction be produced on the mind.*”

In making this grand experiment, Mr. W. points out several important *desiderata*: the first is the *obtention of a sphere of electron, so completely detached from the general mass in the body of the earth as to be, if not permanently, at least for some time stationary.*

The second requisite is to preserve the life of the operator; a third to ascertain the non-conducting or conducting power of *absolute vacuity*; a fourth essential *desideratum will be to counteract the strong attraction of the earth upon the materials of those spheres which it is proposed to subject to orbital motion.*

The modes in which these *desiderata* are most likely to be obtained are next suggested. Possessing a *dry* and *calm* atmosphere, in a very *cold* climate, the operator is to obtain an *insulated plane* of the greatest possible extent; and, if *practicable*, erect a *perfect vacuum* in the centre of this *insulated plane*; or, if this be *unattainable*, a *non-conducting state of the atmosphere* would be desirable. The *electron* may be arrested, and confined to the centre of the plane, by a hemisphere of conducting matter enveloped in an exterior hemisphere of non-conducting matter. To obviate the attraction of the earth, it is suggested that a sphere of non-conducting matter should be filled with *gas*, and enclosed in another sphere of conducting matter; so that the tendency to remain in the earth, and to rise from it, should be so equally balanced as to destroy the effect of gravitation. If all these things can be obtained, the experimenter can have little doubt of success. If a solid sphere of *electron* should be found unattainable or unmanageable, resort must be had to an iron globe, or to a sphere of non-conducting matter, such as glass, wax, rosin or sulphur, highly excited.

On the pleasing astonishment to be produced by such a complete representation of the planetary system—*a perfect and living orrery*—and the immortal fame which its inventor and

constructor would obtain, as well as on the important consequences of the experiment in enlarging our knowledge of the constitution of the universe, Mr. W. expatiates with great enthusiasm and delight.

We have been more particular in our account of this publication, because productions of this cast are somewhat rare, and we wish not only to acquaint our readers with the *hypothesis* maintained by Mr. W. but to exhibit also the peculiar manner in which he has announced and explained it. Every attempt to extend the limits of human science ought to be received with favour, and examined with that indulgence which is due to its dignity, and proportioned to the difficulties with which it is attended. Had our author shown less parade of historical deduction, less verbosity of style; or had he imitated the simplicity and luminous precision of Newton and Lavoisier, the glow of pleasure in the perusal of his work would have been more intense. In ranging over a very wide field in search of analogies to favour the truth of his supposition, he has brought together many facts foreign to his subject. A great many things not immediately or necessarily connected with his theory might have been spared, as every reader, at all conversant with the history of philosophy, must be familiarly acquainted with them.

Towards the opinions of other men Mr. W. has shown candour and respect. In the reasonings by which his own are explained and enforced, he has discovered considerable sagacity and ingenuity, and no mean power of comprehension and research. Though sometimes led by enthusiasm into speculations beyond the confines of probability, yet his supposition that the sun is a *sphere of electric fluid* appears to us as plausible as the conjectures of Newton, Darwin, and others who have hazarded opinions on the same subject. Whether the truth of this or any other theory can or will be ascertained by actual experiment, it belongs not to us to decide.

The style of this performance is too diffuse. It is much wanting in that neatness and precision which ought to characterize philosophical writing. There is an unpleasing affectation of new or unusual words and uncouth phrases. We may venture to remark some of these faults, without being thought too minute in our attention, or too fastidious in our taste.—Egypt is called the *matrix* of all science. Air, it is alleged, *superincumbed* all matter. A theory is *illy digested*; and its effects *injudiciously appreciated*. A secondary planet is called a *satelles*, and its motions *satellitary*. *Luminosity*

of electron. *Impingement on a rock. Axial and orbital motions of the planets. Extending the inquiry to the heterogeneities of the matter of the sun. Obtention, sustentation, &c.*

In the mention of great and celebrated men there is a striking peculiarity in this writer. The place of birth, and sometimes the place of residence, is added to each name, which is repeated with this addition throughout the work. Can it be necessary to tell the world that Sir Isaac Newton was born in Great-Britain? Or if such information were thought proper, it would hardly be necessary to state the fact more than once. Are there other *Newtons* from whom it is requisite to distinguish that pre-eminent philosopher by the accidental circumstance of his birth-place?

We find it repeated, "Newton, of Great-Britain"—"Des Cartes, of France"—"Stahl, originally of Germany, but afterwards of Prussia"—"Lavoisier, of France"—"Guericke, or Guericke, of Magdeburg, in the Electorate of Brandenburgh, which has since become the kingdom of Prussia"—"Priestley, of Great-Britain, but now of the United States," &c.—The constant recurrence of these *topographical* additions to the names of men whose fame has filled the civilized world, though it evinces the scrupulous desire of our author not to deprive their respective countries of the honour of giving them birth, is fatiguing, and must often excite the smile of the reader.

ARTICLE VIII.

Principles of Nature; or a Developement of the Moral Causes of Happiness and Misery among the Human Species. By Elihu Palmer. 12m. pp. 270. New-York. 1801.

THIS is an avowed and bold attack on the christian religion. Its author has been, for several years, a zealous preacher of infidelity in the city of New-York; but his public ministrations attracting less attention now than formerly, and he having fallen into comparative neglect, has chosen to resort to the press, for the purpose of gaining notice and a hearing. He professes, in his preface, to "have written with a view to aid the cause of moral virtue, and extend, in some small degree, the empire of human felicity." These are laudable objects. But how far Mr. Palmer has a right to expect the confidence of

his readers in these professions, will, perhaps, better appear in the sequel.

The author further alleges, that the circumstance of his having been "once a public speaker in the cause of christianity, which is here opposed, so far from forming a reasonable objection against the perusal of this work, ought to become an additional motive of attention; for it was by a candid and attentive investigation into the character of revealed religion that he became convinced that it was neither true nor divine." We are too little acquainted with the history and character of Mr. P. to judge how far this plea in his own behalf ought to have weight on the minds of his readers. But, although we have not conceived a very high idea of his learning, or his "investigating" powers, from the work before us; yet we take for granted he knows enough of human nature and of human society to be aware, that a man may be a "public speaker in the cause of christianity" without understanding it; and that his having been once engaged in this employment, is no pledge either of his former sincerity or of the rectitude of his present conduct.

There is one respect in which the opposers of christianity are in the habit of taking greater liberty with their readers than any other class of controversial writers. If a man, undertaking to teach *astronomy*, at this day, were to revive the *Ptolomaic* or *Brachean* system, and gravely to retail all the reasonings by which they were once defended, but which have been a thousand times refuted, long ago, he would be considered as offering little less than an insult to the intellects of his readers. If a writer on the science of *chemistry*, in the present stage of human knowledge, were to attempt to establish the *phlogistic* theory of STAHL, without taking any notice of the reasonings and experiments in opposition to this theory, by LAVOISIER and his learned coadjutors, every one would pronounce him a most uncandid or incompetent instructor. It is, however, with such writers that the friends of christianity are daily called to contend. *Herbert, Hobbs, Collins, Tindal, Bolingbroke, Voltaire, Mirabaud, Hume*, and others, have, at different periods, plead the cause of infidelity, with all the plausibility and force which wit, learning, and acuteness enabled them to display. These writers were severally answered by many contemporary christians, of at least equal learning, talents, and virtue. In this list appear the illustrious names of *Hallyburton, Locke, Newton, Addison, Berkeley, Clarke, Lyttleton, West, Warburton, Leland, Campbell, Paley, Wat-*

son, and many more. These writers themselves supposed, and many others, equally well qualified to judge, believed, that they had refuted their antagonists in the most complete and satisfactory manner. Still we are doomed to have these old objections every day revived, and arguments, long since refuted, brought forward with as much gravity and parade as if they had baffled all the powers of christians. Of this procedure we cannot help thinking that the friends of religion have some right to complain.

Those who have any acquaintance with the more distinguished infidel writers, will see nothing original or new in this volume. The author has contented himself with the humble task of retailing, in an inferior style, their cavils and blasphemies, excepting in a few cases, in which he has ventured to proceed without their aid. But in these cases he rarely fails to make a most unfortunate exhibition of himself, and is only distinguished by a degree of ignorance and misrepresentation, which the greater part of his predecessors had understanding, learning, or principle enough to avoid.

Mr. P.'s book is divided into twenty-two chapters, under the following titles:

1. *The Power of Intellect, its Duty, and the Obstacles that oppose its Progress.*
2. *Theology and its Effects.*
3. *Christian Theology.*
4. *The Bible, or the Sacred Writings of the Jews and Christians.*
5. *Original Sin, Atonement, Faith, &c. &c.*
6. *Origin of the Earth.*
7. *Universal Deluge.*
8. *Christian Wonders.*
9. *Is the Evidence drawn from Miracles sufficient to prove the Divine Origin of the Christian Religion?*
10. *Prophetic Evidence in Relation to the Divinity of the Christian Religion.*
11. *That the Immorality of the Christian Religion proves that it is not of Divine Origin.*
12. *Christian Martyrs—the Church—Opinions of learned Divines.*
13. *Infidel Philosophy.*
14. *Inquiry, Are the Evils incident to Human Life the Result of the Operation of the Laws of Nature, or are they special Judgments from God?*
15. *Christian Devil.*

16. *Death, or the Disorganization of Intelligent Beings.*
17. *Proposition, That the want of Universality in the Christian Religion demonstrates that it is not of Divine Origin.*
18. *Prejudices.*
19. *Moral Principle.*
20. *Matter and Power—Origin of Motion—Liberty and Necessity.*
21. *Commencement of the Nineteenth Century—Christianity—Deism.*
22. *Conclusion—Reason, Science, Virtue and Happiness.*

We shall not attempt to follow Mr. P. through the numerous and devious paths into which he has chosen to wander with hasty and irregular steps: much less shall we undertake a full discussion of the various moral and theological topics which he has introduced into his pages. It is well known that an artful writer may comprise within the bounds of a single paragraph, a series of assertions which it would require a volume distinctly and satisfactorily to answer. And accordingly the reader will proceed but a little way in the work now under consideration before discovering that Mr. P. finds it much more convenient to *assert* than to *prove*, and more easy to *sneer* and *declaim* than to *reason*.

Besides the infidel writers above mentioned, from whose works Mr. P. has culled and garbled much pompous matter, he dwells fondly on certain philosophical and moral principles advanced by *Rousseau*, *Helvetius*, *Volney*, *Paine*, and others, whom he highly extols, and quotes with the warmest approbation. "Of all the books," says he, "that ever were published, Volney's *Ruins* is pre-eminently entitled to the appellation of *Holy Writ*, and ought to be *appointed to be read in churches*." Again he tells us, "the writings of *Paine* bear the most striking relation to the immediate improvement and moral felicity of the intelligent world. He writes upon principle, and he always understands the principles upon which he writes. He reasons without logic, and convinces without argumentation. He strangles error by his first grasp, and develops truth with much simplicity, but with irresistible force. He is one of the first and best of writers, and probably the most useful man that ever existed on the face of the earth. His moral and political writings are equally excellent; and the beneficial influence of the principles for which he has contended, will be felt through all succeeding ages. *Volney* and *Condorcet*, *Godwin* and *Barlow*, are justly entitled to the

universal gratitude and applause of the human race." The man, even the *infidel*, who can speak thus of Mr. Paine and his writings, must either have a contemptible understanding himself, or must count strangely on the frivolity and weakness of his readers' intellects. Such language argues a degree of ignorance of infidelity, and of the comparative characters of infidel writers, of which we did not suspect Mr. P. low as we had rated both his talents and his knowledge.

But our surprise does not end here. Mr. P. professes to believe and to establish a kind of rational *Theism*. One would suppose that, in consistency with this belief, the apostles of *Atheism* would be the objects of his abhorrence and opposition. By no means. He quotes *Mirabaud*, *Condorcet*, *Volney*, and other atheistical writers, with high approbation, and recommends their writings by unqualified and repeated encomium! How are we to understand this? Does Mr. P. suppose the grand point of controversy between theists and atheists to be of no importance? or is it his intention, while he professes to believe in God, to persuade his readers that there is none, and to convince them that this is his real opinion? Our first impression was, that the man who could write thus, must be totally destitute of principle; but a more attentive perusal of his work led us to adopt the more charitable conclusion, that he does not possess sufficient discernment of mind to perceive how far certain opinions and positions must necessarily conduct those who adopt them.

Mr. P. as is usual with anti-christian writers, confounds Protestantism with Popery; makes no distinction between religion and its corruptions; and unfairly imputes to it all the miseries which have arisen in the world. "During the darkness of popery," he tells us, "christianity reigned triumphant;" and in another place he says, "This long period has been justly denominated the night of ignorance, and may, with equal propriety, be denominated the pure and uncontaminated reign of the christian religion." Mr. P. might as well say that the reign of *alchemy* was the period of true and liberal science; or that literature was at the highest pitch of glory in the ninth and tenth centuries. The truth is, during the period of which our author speaks, religion was little known: the christian scriptures were scarcely at all read; and ecclesiastical historians, with one voice, inform us, that the whole of christendom, with very little exception, had almost entirely lost the knowledge, and departed from the practice, of christian principles. And it is a fact equally notorious and

undeniable, that, at the æra of what is called the Reformation, when the scriptures became more familiarly known, and when christian truth was held up with more simplicity and purity to the world, the christian church became more pious, more moral, and more conformed, in all respects, to the standard of duty and holiness which Revelation displays.—What are we to think of a man who can pervert facts so generally known, and so incontrovertible as these? His statements may be called artful by some, but it is difficult for us to suppose that any tolerably informed reader can esteem them *honest*.

Again, Mr. P. asks, “ Whence all these calamities? Whence these innumerable evils that have overwhelmed and laid waste a beautiful and productive earth? Where is the source of these human misfortunes? However painful the task, truth compels us to declare; that to this *holy* religion they are to be attributed.”

Is it possible to suppose that Mr. P. has never heard of the distinction between nominal and real christians; between the purity of religion and the corruptions of it; or between christianity as it is to be found in the bible, and as it is degraded by superstition, polluted with the admixtures of unsanctified wisdom, or converted into an engine of ambition and malice? Had one who never saw religion excepting in these miserable counterfeit forms, indulged in the style of expression which Mr. P. has adopted, he would have some apology for his error. For this author, we confess, no adequate apology occurs to us. Let unbelievers attack christianity as it is exhibited in the scriptures, and no christian need fear to meet them. The doctrines of Christ teach us to love God supremely; to repent of all sin; to love our neighbour as ourselves; to cultivate forgiveness, patience, and benevolence toward all men; and not only to seek our own enjoyment, but also to promote that of all around us by every means in our power. Is it possible to represent these precepts as injurious to the interests of men? Is it possible for any one to turn them into ridicule, without first showing them through a perverting and distorting medium?

Mr. P. tells us (p. 25) that the bible “ was not written *at first* in English, but in Hebrew, Greek, and *Latin*.” That the sacred volume was first written in Hebrew and Greek we were before informed; but that the *original* of any part is *Latin*, is a piece of information wholly new to us. Is it in this manner that a “ public speaker in the cause of christianity” candidly and attentively investigates the canon of scripture?

In the chapter on the "Universal Deluge," Mr. P. makes himself merry with the ideas entertained by christians on this subject, and treats them with great contempt. He ought to have known that many serious christians do not believe the flood to have been universal; and that they suppose the scripture account of that event does not teach us to believe so. He ought to have known, on the other hand, that some of the most acute and learned naturalists of the present age have been led, by the most patient geological investigations, to conclude, with certainty, that the earth must have undergone, a long time ago, some such convulsion, by a flood, as the scriptures speak of. While such men as Mr. KIRWAN, Professor PALLAS, M. DE LUC, and many more of equal learning and talents, find abundant evidence in support of the *Neptunian theory* of the earth, in every part of the world to which they have directed their inquiries, we can very well afford to bear the reproaches and the scorn of such a man as Mr. P. for embracing this theory.

Not contented with the misrepresentations already mentioned, Mr. P. makes other assertions, to which we forbear to give that name which they appear to us to deserve. "The christian world," says he, "worships three infinite Gods, and one omniscient and omnipresent devil." In the chapter entitled "Christian Devil," he ascribes to christians, as part of their faith, the fictions in Milton's *Paradise Lost*, and asserts, that "in almost all cases where the devil has brought his powers into vigorous action, he has succeeded, in despite and defiance of Omnipotence itself; that Satan is put on a par with God; that the devil is represented as being every where at the same time; that *ubiquity* is one of his leading attributes; that he is omniscient as well as omnipresent; that he knows every thing that is going on in heaven, earth and hell, and is continually exerting his power to defeat the projects of his celestial competitor."

As to christians worshipping "three infinite Gods," we shall only say that we never heard any christian acknowledge this. Trinitarians believe that one infinite and eternal God exists with a kind of three-fold personality, which, though they do not attempt to explain, they unanimously declare does not imply, in their view, a belief in three Gods. Is it more difficult to conceive of a triune deity than of a self-existent deity? But we will not detain our readers with the discussion of a subject which has been so frequently and so fully discussed by the ablest theological writers.

Where Mr. P. found the opinions which he expresses concerning the *devil*, as held by christians, we are at a loss to conjecture. We never met with any writer who taught them, nor with any individual who believed them. We are sure the *Bible* teaches no such doctrines. That there are wicked and miserable *spirits* in the unseen world, who delight in mischief, and who especially take pleasure in seducing and destroying men; that these wretched spirits possess great knowledge and power; that they are many in number; and that there is especially *one* among them of greater authority and influence than the rest, probably acting as a principal or leader, and emphatically called the *Devil* and *Satan*: these are doctrines which seem to us to be taught in scripture; and they are, in our view, reasonable doctrines. If wicked men, in the present state, are found to take great pleasure in tempting and corrupting their fellow men; and if one spiritual being can operate upon another, where is the unreasonableness or the difficulty of supposing, that devils may annoy, frail, depraved mortals, and lead them astray? and, also, that these tempters (their name being *legion*, on account of their numbers) may be engaged in this work of malice and mischief in many different parts of the earth at the same time? Neither do christians believe that the devils are on a par with the Almighty, or that they ever prevail against him. They suppose, as their *Bible* teaches them, that the evil spirits, like all wicked beings, are under the restraint and controul of the Most High, and that he makes their malignant exertions to promote the greatest good of his kingdom.—Still less do we know that any christians, as Mr. P. asserts, *worship* the devil. Indeed, this is so barefaced a deviation from all semblance of truth, that we wonder a little decent policy did not either wholly prevent the author from inserting such a declaration, or lead him to clothe it in more equivocal and imposing language.

What Mr. P. says with respect to *miracles*, *prophecy*, *inspiration*, the *morality* of the scriptures, &c. is so trite that we forbear to follow him. Those who have read the infidel writers of the first class on these subjects, will despise Mr. P. as a superficial sciolist, and a miserable bungler in his own cause. And those who are acquainted with what has been advanced in support of the christian creed, on those points, by CAMPBELL, NEWTON, PALEY and WATSON, will be abundantly fortified against all cavils and objections. Indeed, the last writer, in answering the author of the *Age of Reason*, has answered Mr. P. in most of his statements and

reasonings. The latter has copied the former in so many things, that to refute one is to refute both.

The reader of these pages will be disgusted with the frequent repetition of such expressions as the following—"mental energies of intelligent beings"—"virtuous activity of the human race"—"activity of intellectual strength"—"the moral energies of man"—"perfectibility"—"the progress of intellect"—"the subtle activity of thought"—"the energy of intellectual powers," &c. &c. Such language will especially disgust those who observe that Mr. P. while he departs from Revelation, establishes no fixed or satisfactory principles of his own. He asserts that "no limits can possibly be assigned to the moral and scientific improvements of man;" that "the strength of the human understanding is incalculable;" and yet he is at a loss to account for many things which it is of high importance for us to know. He is sure that Moses was not "a good world-maker," and that many parts of his history are false; but he himself is nothing intelligible or satisfactory as a substitute. In one place he seems to be of opinion that human nature is not depraved; and, in another, that it is partly corrupt, or a mixture of virtue and vice. All is confusion, conjecture and uncertainty. This is the method usually adopted by these writers. Their zeal is much more employed about pulling down the christian religion than building up any thing in its room. They would extinguish the lights of Revelation, and plunge us again into the darkness of paganism; while they scarcely condescend to shed a ray across the gloom to console or guide us. We would advise our readers to "take heed to the sure word of prophecy," until "the intellectual energies" of these men shall reach the glorious height of which they speak; and until "the dignified empire of reason" shall gain that extensive and firm establishment which they so kindly promise.

Mr. P. having rejected the light of Revelation, and contending for the "unlimited power of human reason," it will be curious to collect from different parts of his work some of the principles (though we have before expressed an opinion that they do not deserve this name) which he advances. They are these—"That the universe is composed of an infinite mass of matter;—that motion is an inherent and essential property of it;—that there is a difference in the activity of matter, or in the degrees of motion of which the several parts are capable, but that there is no such thing as absolute incapacity of motion—no such thing as absolute and entire rest;—that there is no such

thing as dead matter—all is alive—all is energetic;—that the origin of motion is in matter itself, co-essential and co-eternal with it, and cannot be separated from any part thereof, not even in thought;—that matter, in its most simple form, may, perhaps, be destitute of intelligence, but when combined and modified in the form of a man, intellect is an uniform consequence;—that the principle of life must be inherent in the whole system, and every particle thereof;—that a certain portion of matter, organized upon a certain specific plan, produces in the animal we denominate man all the energetic and astonishing effects of mind;—that nature is considered as possessing a central power, a brain, or cogitative faculty, whose operations on a higher scale are supposed to be analogous to the brain or thinking faculty in man;—that this would, perhaps, be the most philosophical method by which to arrive at the idea of supreme intelligence, or the governing power of the universe;—that whether the planets, in their individual capacity, be considered as intellectual beings, or whether nature, in its aggregate combinations, be thus considered, are questions of speculation, concerning which, perhaps, the human mind will never receive any adequate or satisfactory information;—that this earth has existed from all eternity, and must, from its very nature, continue to exist for ever;—that the relative position of the earth and the sun must formerly have been very different from what it is at present;—that the productions which we behold are the result of the sun's celestial power;—that the position which our globe at present holds, in relation to the sun, does not warrant us in the conclusion, that either men, or the larger kind of animals in the brute creation, could have resulted from this position;—that nature is every where periodical in her exertions and energies, is susceptible of fatigue and lassitude, and her most powerful exertions are followed by proportionate debility and inactivity;—that it is, therefore, possible, in the order of nature, that the most powerful animals might have been the result of an inconceivable exertion, to which nature, for millions of years after, might have been totally incompetent;—that death is an universal law, so far as it relates to all the productions of the earth;—but as we have never seen a planet die, or dissolve into the vast ocean of space, we have, therefore, no good reason to believe, that any such event will ever take place;—that death is a change in the mode of existence, a dissolution of the combined modifications of animal life, a physical property of every sensitive agent, the eternal muta-

bility of infinitely diversified modes of being, established in the primary arrangements of nature, a property, and ever will be, of the parts and totality of existence;—that the human mind is incapable of forming any conception of that which is not material;—that man is a being whose composition is purely physical, and that moral qualities or intellect are the necessary results of organic construction;—that the powers of man are competent to all the great purposes of human existence;—that the opinion which refers intellect to organic material combination, would favour most an unlimited improvement of the human species;—that earth is the abode of man, and that of this the materials of his existence are composed;—that his energies, his powers, his existence, are all confined to this place of residence, and to the amelioration of sensitive and intelligent life all his labours ought to be directed;—that man, if he would be happy, must come home to nature, admire her splendid beauties, develope truth from the permanence of her laws, and cultivate real virtue;—and, finally, that in order to be eminently good, a full scope must be given to the operation of intellectual powers, and man must feel an unqualified confidence in his own energies."

Those who are acquainted with the doctrines of the most celebrated atheistical writers, will see that Mr. P. is as determined an *atheist* as any of them. God, in his view, is the brain, or central point of the material world; is nothing more than refined matter; is capable of lassitude or fatigue; and after having made a violent exertion, has not strength, for millions of years afterwards, to do the like again, &c. Such are the ideas of a man who professes to be a rational *deist*!! But we will not weary ourselves, nor disgust our readers, with any farther abstracts from this wretched mass of inconsistency.

Mr. P. abounds much in sneer and ridicule, when discussing the most solemn subjects which come before him. We never approved of this method, so common among infidel writers. The great question between christians and their opponents is, doubtless, the most interesting and awfully important that can be considered by the human mind. The religion of Christ, whether true or false, is certainly not contemptible. It demands sober examination, and is worthy of it. With us, therefore, every one who attempts to discuss it otherwise than seriously and respectfully, forfeits all confidence as a rational and wise man.

The political opinions frequently glanced at, and indirectly

brought forward in this work, we shall not attempt to discuss. Our author is a warm friend to free government. So are we. He is opposed to making religion an engine of political ambition. In this, also, we agree with him. But when he asserts that human society would be more peaceful, prosperous and happy, without religion than with it; and when he tells us that all his hopes of the future "progress of intellect," and the advancement of "the energies of man" toward perfection, are founded on the extinction of this religion, and the establishment of his *atheistical* system in its room, we think him totally in error. All experience, in our opinion, proves, that society is virtuous and happy in proportion to the prevalence of pure religion in it; and that to destroy religion in any community, is the direct way to make the mass of its constituent members vicious, irregular, degraded and miserable.

Considering this work in a literary view, its merit is small. The author displays affectation, inordinate vanity, and want of enlarged views, in almost every page. The subjects which he handles are all treated in a superficial manner. We forbear to remark on the errors in spelling, and other points of verbal criticism, for which either the writer or the printer is to blame, and which are really more numerous and shameful than we remember to have seen before; as for mistakes of this kind Mr. P. apologizes, by informing us that he labours under a "total loss of sight."

Mr. P. speaks frequently of the great apprehension and terror which the Christian Church feels from the attacks of her enemies. We do not imagine that the "Church is in danger" from any quarter; much less do we think she has any thing to fear from the exertions of this puny adversary. We do not, indeed, dispute the warmth of his zeal, nor the strength of his wishes to destroy christianity; but we are altogether mistaken if such miserable effusions as Mr. P. has here presented to the public, are not rather favourable than otherwise in their influence on religion. We know of few things better calculated than such a manual, to convince every reflecting man what a wretched, comfortless thing infidelity is; and to show the importance of having something better to furnish support under affliction, peace in death, and the prospect of happiness beyond the grave.

ARTICLE IX.

A Parnassian Shop, opened in the Pindaric Style. By Peter Quince, Esq. 12mo. pp. 155. Russell & Cutler. Boston. 1801.

IN conformity to his title this author appears to have studied the style of the facetious PETER PINDAR with great diligence, and he has indeed laboured so hard to keep in his path, that he very often treads exactly in the footsteps of his unrivalled predecessor. Those (if any such there be) who are unacquainted with the eccentricities of Peter Pindar's antic muse, will probably be much entertained with the flashes of droll wit, the whimsical allusions, and ludicrous use of epithets, with which the present volume abounds. It is very questionable, however, whether the admirers of the British wit will allow our countryman the praise of a successful imitator. The admirers of Peter Pindar are so bewitched with his originality, that any attempt at imitation will be regarded as abortive and ridiculous, as the endeavour of a modern dramatist to liken his poetical offspring to the progeny of Shakspeare's muse. Willing, however, to consider our author as a poet *per se*, and to give him credit for every spark of wit not borrowed from his *prime conductor*, the wonder-working Peter Pindar, we shall make a few experiments in the way of quotation, and begin with his *Exordium*.

"Seize the goose-quill, ye pioneers to fame,
Who herd with printers' devils in the dark;
To watch the irradiating spark,
Which rarely flashes round a poet's name.

"Seize! seize the quill; and, arm'd with fury dire,
In gall and lamp-black dip its venom'd point!
But spoil not, friends, of paper half a quire,
Or put your greasy fingers out of joint!

"For lo! this work belongs to modest Peter,
One of Apollo's laughter-loving sons,
Who feeds on epigrams, quips, quirks and puns,
And now forth sallies with a pack of metre;
A funny pedlar from the Muse's store,
Who comes to sell some nick-nacks for the poor.

"Therefore, good stranger, as you pass,
Turn not a wonder-working eye;
Or, sneering, squint at Peter's little shop,
Where you may reap of joy a plenteous crop:—
He owns that many flagrant faults you'll spy,
Without a microscopic glass,
Amidst his multitude of wares,
Made from your follies, crimes and cares.

"But if, in this great age of critic lore,
With weasel eye around his shop you pore;
If, sad mishap, thou deal'st in Logic's rules,
And tread'st, with dray-horse step, the track of schools;
Car'st in thy noodle compass, guage and square,
And measur'st language as a post or ball—
Peter desires thee *not* at shop to call;
But turn away, and shun his wit-wir'd snare."

He thus addresses the critics:

"But then—avaunt! ye shrivell'd, meager race,
Who feed on envy, liver, cats and plaice;
Who vainly tempt Apollo's fount to sip,
And thro' our Delphian groves to dance and skip.
Nought, save stale cyder, shall your heat assuage;
No dance your feet employ, but madness in the prison's cage.

"Fly then, deluded wretches, fly the throne,
Where keen ey'd Wisdom sits in magic state;
Thy maniac bathos charms the herd alone,
Whose praise is folly, and whose smile is fate.

"Better to sylvan shades and fields repair;
There midst the hillocks wind the glist'ning plough;
With early foot-steps meet the fragrant air,
And to her pen return the grazing cow;
And while sweet Susan fills her milk-white pail,
List to her artless song, and cease to rail.

"Critics are call'd a cat-fac'd, snarling crew,
Who, when a genius (mouse-like) from his hole
Puts forth his trembling paws and pretty pole,
Spring forward, seize, and o'er him growl and mew,
Which proves a critic fears, the author means
To steal his bacon, crust of bread and beans.

"Peter has no intent to touch their store;
Thank fate, he's not so despicably poor.
He'll not disturb their bacon, eggs or cheese;
But wishes, if their critic-worships please,
To take an airing in the walks of fame,
And on Parnassian oaks to carve his name.

"He does not stroll abroad to breed a riot;
To laugh at people's dress and houses;
Blackguard their children and their spouses,
Their mode of speaking, gait and diet;

But comes, with dimpled chin and laughing eye,
 From simple scenes of humble life,
 This party-colour'd world to spy—
 Enjoy your pleasures and appease your strife.

"With Music's cordial to assuage your grief,
 Dispel the mist of sorrow from the soul,
 Cause the loud laugh through echoing vaults to roll,
 And give to gloomy care a sweet relief.
 No menial off'ring for the boaster's pride,
 Or causeless censure shall the muse bestow;
 But leaning gently on fair Pity's side,
 Will point at faults, and weep to find them so."

In his "Love-Pill" he describes the behaviour of the sheepish, timid lover, humorously enough:

"Ods heart! poor lovers—why those sheepish looks?
 Why so much racking of thy youthful brains?
 Such midnight wand'ring near soft rippling brooks,
 To pour in plaintive sadness love-sick strains?
 For some sly, artful, simp'ring, smock-fac'd fair,
 Whose prudish coyness is the gloss of art;
 Who would not smile to save thee from the cart,
 Nor give a *sous* thy purse and love to share.

"How oft, when Somnus, in his leaden car,
 Has roll'd the lab'r'er's weary limbs to rest,
 Have you the craggy mountain's summit prest,
 To watch the silver moon, or fav'rite star.
 And when, perchance, deep clouds and dismal gloom
 Hide the dear idol from thy anxious view,
 What piteous plaints thy troubled souls renew,
 Till frighten'd Echo answers from her tomb.

"Thy love, perhaps, has got a fav'rite dog,
 Growling and fractious as a half-starv'd hog;
 And tho' you hate the little dirty whelp,
 Yet, when at tea you get of toast or cake,
 What anxious pains and trouble must you take,
 The barking, biting cur to help.

"Or does thy mistress love a great he-cat,
 Who longs to grapple with his foe, the rat,
 You must, by all means, take him on your lap,
 And stroke the grumbling rascal to a nap;
 Tho' wide he rolls his 'gooseb'y eyes,'
 And sticks his talons in your thighs."

Quince's imitation of Peter Pindar's style is no where more conspicuous than in the following lines:

"Genius is not a dull, tame, plodding beast—
 Is never seen with measur'd step to tread
 The dray-horse winding of pedantic head,
 Can rarely stomach your didactic feast.

"With eagle flight, she scales the heaven of thought—
Talks to that rosy rogue, the sun—
Asks him how long he means to run,
And whether Mrs. Moon to bed has got—
Whether the stars and planets have the dumps,
Or with their white-fac'd mother stir their stumps.

"Then, careless, downward moves her zig-zag course,
Laughing at Time's old musty budget—
Or ponders, thoughtful, on the lightning's force—
Or else, in musing rapture, she is seen
Along the craggy cliffs to trudge it—
Eying the awful grandeur of the deep,
Whose surly waves earth's bellowing borders sweep;
While onward moves the sun with face serene."

We shall conclude our quotations, for the present, with an extract from the "Ode to Fancy," in which our poet displays the images of a rich and versatile imagination:

"O! father Peter, canst thou tell
Where roams that ever-changing jade,
Who starts, improves and beautifies our trade;
Raising within our minds her magic spell?

"With robes of rainbow hue she trips along,
Beating her airy, wild, fantastic feet
Around the soul's immortal seat,
Till forth sweet warbles the enchanting song.

"Kindly, when darkness shrouds the poet's soul,
She comes with all her pretty playful train;
Bids Hypochondria's green eyes cease to roll,
And surly Sadness quit his frenzied brain.

"Her little fairies clean his cobweb'd room,
And change his ragged coat to robes of state;
While sylphs present him billets from the great,
And scatter sun-beams o'er the world of gloom.

"No more he hears the sheriff's horrid note,
Winding, with dreadful peal, across his way;
The forms of writs and jails no longer float
His slumbers through, and fright the coming day.

"A cheerful *Gnoma* trims his glimmering lamp,
Wipes from his forehead Mis'ry's baleful dew;
High on Fame's hill she rears his laurell'd camp,
And prospects joyous burst upon his view.

"When madam Nature to the longing muse
Yields no cascade, or rippling stream—
Sheds not on mountains high the golden beam—
Or scatters o'er the vale her silver dew;
Then kinder *Fancy* to the bard applies
Her crystal prism of celestial dyes.

" Quickly the landscape glows with magic charms;
 The arid heath assumes a gay attire;
 The wither'd oak uplifts his glitt'ring arms,
 And rivers roll with waves of liquid fire."

The author appears to possess genius, and we therefore regret his perverted taste, or rather, perhaps, his whimsical humour, in so industriously hunting up the most extravagant conceits, and tricking them off in a dress so artificial and grotesque. The perpetual use of quaint phraseology and far-fetched similes grows, at length, tedious: it savours so strongly of affectation, that to the lovers of simplicity it soon becomes offensive, and the writer ceases to be respectable. Peter Pindar seems to have been aware of this; for he takes frequent occasion to infuse into his verse a considerable portion of pure simplicity and amorous tenderness, and often elevates us unexpectedly by a spirited dash of the sublime and beautiful. Our poet, indeed, has by no means been neglectful of these ingredients; and yet those who have drunk deeply of Peter Pindar, will, we fear, complain that Quince's beverage is sometimes a little insipid. Such is the danger of imitating those whose originality has already fascinated the senses, and fore-stalled the admiration and applause of mankind. Peter Pindar has rambled through a region before untrodden, and having had the first choice of the "crow-flowers, daisies and nettles," to make up his "fantastic garlands," those who follow his footsteps must content themselves with the refuse of this greedy spoiler. That fame which rests chiefly on imitation, and especially the imitation of the eccentricities of a lawless vagrant of Parnassus, cannot be splendid or durable.

The *labels* which our *poetical shop-keeper* attaches to many of his wares, though contrived with much wit and ingenious pleasantry, frequently betray his customers into disappointment; for, often, when they expect to be regaled with a bundle of rich and delicious spice, they find little more than a parcel of plain *dry* goods.

His versification is, in general, sprightly and melodious; but though the printer has committed an inexcusable number of errors, there are still many lines whose limping gait must be imputed entirely to the poet's carelessness.

Peter Pindar, who is accused of taking delight in ridiculing and depreciating every thing meritorious and excellent, has taken occasion, in one of his satires, to cast reproach on the poetry of the justly celebrated HAYLEY. Peter Quince, in

his rage for imitation, fancies he must not only be as sarcastic as his master, but must even aim his severity at the very same objects: for this purpose he too, forsooth, lets fly his bolt at that accomplished poet.

To confound the poetry of *Hayley* in the same ceusure with that of “*Della Crusca, &c.*” discovers neither true taste or just discrimination.

ARTICLE X.

The Rural Socrates, or an Account of a celebrated Philosophical Farmer lately living in Switzerland, and known by the Name of Kliyogg. 8vo. pp. 216. *Hallowell (District of Maine).* Peter Edes. 1800.

THIS is a very singular production. The suspicion that the “Rural Socrates” is nothing more than a philosophical romance, the editor has endeavoured, in his preface, to remove, by the following remarks:

“The editor of the present memoirs visited Switzerland nine years after the death of Kliyogg, and saw many who had known him. The famed Lavater, M. Tchiffelli (the chief institutor of the celebrated Economical Society of Berne), the seventy members of the Philosophical Society of Zurich, and the several hundred members of the Helvetic Society, with the father of the two Mirabeaus, Count Tressan, and Mr. Arthur Young, are additional vouchers to the public for the existence, or for the merits of the subject of the present history. If the great Newton came from the class of small landed proprietors; if the sagacious Franklin began by being a mechanic; and (to say nothing of Shakspeare and a crowd of others) if the English Brindley, the Scotch Ferguson, and the German Duval and Ludwig, sprang from the lowest class of peasants, why shall we doubt the reality of a Kliyogg? Unassisted nature can produce personages as extraordinary as those sometimes arising under erroneous systems of education. The character, then, here represented, is not feigned; and yet it is as proper for contemplation as if it had been invented; for even the faults of Kliyogg are instructive.

“Dr. Hirzel, who first made known this person to the public, wrote in German, which is the language of the largest

portion of Switzerland. He was, by office, first physician to the Republic of Zurich, a member of its Council, and occasionally Secretary to its Senate. His accounts were published at different periods, in proportion as the life of Kliyogg furnished the materials. The principal of these accounts were gradually translated into *French* by a friend of the present editor, a native of Basle, who had a majority in a Swiss regiment in the pay of France, with the rank of Lieutenant-Colonel. Mr. Arthur Young, since honourably known by his publications, and lately made Secretary to the English Board of Agriculture, struck with the first part of the French publication, procured for it an *English* dress, and annexed it to one of his own works, adding the preface given in our appendix, with the notes still retained in their places.—Mr. Young's own work, and a *part* of the English translation, were reprinted in New-Jersey, in America, in 1792.

“The English translation, published under the direction of Mr. Young, is nominally adopted here for the part to which it relates. It required, and has received, corrections in every line. Yet, since many faults have been still left in it, and some have even been introduced in consequence of an intermixture of styles, a new translation would have been more satisfactory, and certainly more easy; but the conviction of this occurred too late.

“The present compilation offers only one original article, besides a few notes; but it is as full of historical matter as the German edition, and far less digressive; it is considerably more complete, also, than the French edition; and twice as extensive, in its essential parts, as the English. It has obtained these advantages by the privilege of rejecting or selecting from each at pleasure. The liberties taken with the German and French works have been pursuant to a special authority for the purpose, given by their respective authors. The liberality of Mr. Young also will not allow him to complain of the reform made in the English translation; since he is interested in it by his zeal for the public benefit alone, and not by his personal feelings.

“The compilation here offered to notice professes not to be an original work. It exhibits, therefore, different speakers, and at different periods; but the differences are made sufficiently distinguishable.

“It may be proper to state here, that the Philosophical Society of Zurich (*la Société de Physique*) above referred to, which took great interest in Kliyogg, had for its objects na-

tural philosophy, its application to common life, mathematics, natural history, and medicine. ‘Its first volume,’ says the Swiss author of our French translation, ‘contained thirteen memoirs, of which seven regarded agriculture solely. Dr. Hirzel’s first account of Kliyogg formed one of these articles, and produced excellent effects. A number of the clergy recommended it from the pulpit to their congregations. I can testify (adds the writer, who lived within twenty leagues of Zurich), that the work, even to its smallest particulars, was founded in the most perfect truth.’”

The editor next explains to us his reasons, and those of Dr. Hirzel and the French editor, for the use of the name “Rural Socrates.” These are somewhat fanciful. The two personages seem to have agreed in the general purity of their motives; but after allowing that both were men of virtue, there can scarcely be imagined any thing more unlike than the modes of virtue, the schemes of action, and the destiny of the Athenian and the Switzer Socrates. The editor is not unaware of the defects of the parallel. These defects he has acknowledged in the following judicious terms:

“But in justifying the analogy established between the characters of Socrates and Kliyogg, we must not be thought to place them upon an equality. The one laboured for the human race, present and future; the other for himself, his family, and immediate neighbourhood. The one was an enlightened teacher of philosophers; and the other a self-taught rustic. The one gave precept and example; and the other chiefly example. We are explicitly and pointedly instructed by the one; and we must gather instruction for ourselves from the other. But each, in his turn, may be useful; and Kliyogg, for our time and for the many, may even be the most useful. It cannot belong to every one to legislate for the human race, like a Socrates or a Confucius; but every one has a private station to fulfil, and, if he is disposed to fulfil it well, he may profit by the history of a Kliyogg.”

After a very sensible and well-written preface, in which the editor explains the degree in which the example of *Kliyogg* is useful, or adapted to *America*, the reader is presented with some account of *Kliyogg*’s origin, his entrance on his farm, and his agricultural plans.

James Gouyer, commonly called *Kliyogg*, or *little James*, sprung from a family of peasants in the Canton of Zurich. On the death of his father, his little patrimony was divided among five sons. The two youngest, of whom *Kliyogg* was

one, became associates in the improvement of a tract of land, containing about 120 acres (English). The two brothers had each numerous and young families—their fields were much impoverished and neglected—labour was scarce and dear—and their father's will had burthened the estate with a considerable rent charge. Notwithstanding these embarrassments and difficulties, the brothers contrived, by their economy, industry and ingenuity, to improve their farm, to augment their stock, and even to enlarge their estate by new purchases. It is the object of this work to detail the agricultural schemes, and the moral and domestic conduct of *Kliyogg*.

We have first a general account of his system of farming. This account has little regularity or method in it. Particulars are thrown together as if by accident, and in the order in which they chanced to occur to the compiler. The chief stress is laid upon the system of manuring. The following particulars upon the subject of manure deserve notice:

“ He gathers all the dried leaves, moss and rushes from his ground, that can serve for litter. The small dead boughs and pointed leaves of fir-trees in particular, afford plentiful materials for this purpose; and he employs in this occupation the greater part of the time he can spare from his other work. A compost dunghill appears to him an object of so great importance to the improvement of land, that, of all branches of labour, he regrets the want of assistance in this the most; so thoroughly is he persuaded that he wants only labouring hands to procure fifty loads more of manure without increasing the number of his cattle.

“ In autumn, during the moon's increase, Kliyogg goes into his wood with a hedge-bill, to prune the supernumerary branches of fir and pine trees, even of those which he thinks it useful to leave; boldly venturing to cut the lower shoots of young trees close to the trunk. These he binds into faggots, and carries home; placing them under a shed till a proper season for prosecuting his work. At leisure hours he prepares these faggots for the purposes intended. He begins with cutting the small boughs away from the larger ones; laying them, with the pointed leaves of these trees, in little heaps, to be used for litter; while the larger and tougher boughs are reserved for fuel. By this method he amasses many proper materials for good manure, that are commonly suffered to rot uselessly in the woods. To Kliyogg this discovery is an inestimable treasure, of which we were either ignorant or forgetful. The opinion is farther verified in Zellweger's

description of the mode of husbandry used in the Canton of Appenzell. They scatter their dead branches of fir and pine trees in great roads, to be trampled by cattle and passengers; by which means they acquire a beginning of putrefaction, and are converted into manure, though of a very indifferent quality. But Kliyogg, who had experienced how defective this method was, has succeeded in converting these very materials into excellent manure. It is known that the resinous and aromatic juices contained in the prickly leaves of pines are powerful enemies to putrefaction: but what obstacles are not to be surmounted by reason, seconded by industry? Kliyogg subdued them all, by observing certain rules in the preparation of litter for his cattle, and of the different strata of his dunghill.

" He seldom removes the litter under a week, strewing fresh upon the top once a day; by which means it becomes impregnated with animal salts, and acquires a very evident degree of fermentation before it is removed to the dunghill. An objection may arise to this practice, namely, that the strong effluvia arising from the fermented litter must be prejudicial to the health of the cattle. But Kliyogg assured me that experience contradicted this; and thanked God that his beasts had always been remarkably healthful and vigorous. Nor does this method prevent cleanliness, if a constant supply of fresh litter is attended to; and the cattle are, at the same time, more warm and comfortable.

" This exactness is equally conspicuous in the management of the litter when taken away. It is placed in separate layers upon the dunghill; so methodized, that those where the fermentation is soonest to be expected may accelerate the putrefaction of others where it is more slow. In the beginning of autumn he litters his cattle with straw during two months; the next two months he litters them with twigs and spines (or pointed leaves) from fir and pine trees; then straw again, or rushes and dried leaves; then twigs and spines; and so on alternately.

" The regulation of his compost dunghill is as follows: Lest the fermentation should be totally suppressed, or even checked by drought, he is attentive to the preservation of a certain degree of moisture. The sagacity of our philosopher has explained to him, that to obtain a manure thoroughly rotten, he has nothing to do but to preserve a constant fermentation by frequent waterings. To facilitate this, he has sunk near his dunghill seven large square pits, which are

planked with wood in the form of boxes. In these pits he keeps the prolific water, essential to so many operations. First putting some thoroughly fermented cow-dung at the bottom of his wooden boxes, he pours in a pretty considerable quantity of boiling water, and then fills up the pit with fresh water from his wells: this brings on, in three weeks, a state of putrescence, which, without boiling water, could not be attainable in two months. He has thus a perpetual supply of corrupted water, as well for the purposes of vegetation, as to keep his dunghill in a constant state of humidity. But as the expense and labour of such a work might far exceed the profit, Kliyogg has thought of a means that, in a great measure, reduces both. In pursuance of it, he dug a well, at a proper height, to convey whatever quantity of water he has occasion for, by a wooden pipe, directly into the copper. His reservoirs of stagnant water are sunk below his stalls and stables, with the same view to conveniency. There is likewise a trough at the declivity of the dunghill to receive the water that drains from it; which gives an easy opportunity of moistening the dunghill frequently without robbing the soil of its share of the stagnant water.

"The success of this method of watering his dunghill suggested an idea of putrefying small twigs of fir or pine, without using them for litter. He lays them in close heaps, pressed down, and covered with earth, to prevent evaporation; and pours stagnated water on them every day, till converted into rich mould."

Kliyogg pursued several other methods of enriching his lands. The use of marle, turf, gravel, irrigation, the conversion of autumnal grass into manure, were all familiar to him. The following, we are told, was his method of converting ground into meadow:

"He always chooses the best soil, and commences the work by clearing it of stones with the utmost assiduity. He then ploughs it, and gathers the stones a second time that lodge in the furrows; harrows it over; and, when it is quite level, and all the small stones picked up in a third gathering, he sows it with grass-seed. Nor is he very anxious in the choice of seed; for experience has taught him, that the difference of herbage depends entirely on the nature of the soil and the preparation of the ground. The same meadow that is matted with moss, and every kind of unprofitable beggarly weeds, will produce trefoil of the best quality, when improved by manure adapted to its nature. In this instance we find a

manifest proof of the infinite wisdom and goodness of the Creator. Let but the husbandman fulfil his part of the obligation by industrious culture, and leave the result to Providence. The most wholesome and nutritious plants will grow spontaneously; the winds will waft from distant fields the most useful seeds, which want nothing but a proper bed to make them vegetate; whilst noxious weeds, not finding suitable nourishment, will wither for want of the juices appropriated for them."

In the management of his arable fields, *Kliyogg* is no less fertile of expedients than in the other departments of agriculture. We shall extract the following remarks on the effect of frequently changing the seeds:

"Let us now consider *Kliyogg*'s husbandry in his grain lands, which, in the district where he lives, it is the general custom to separate into three divisions. *Kliyogg* has fifteen acres in each. The first allotment is for wheat: his rule is six loads of manure and ten bushels of wheat or spelt* (which last grain he commonly prefers) for each acre. The produce is, in general, more than one hundred sheaves, which, when threshed, yield six sacks of winnowed grain; the sack containing ten bushels, or two coombs† and a half. Thus the clear profit of an acre of land is three malters‡ and twelve bushels of unwinnowed grain, and full thirty bottes (or bundles) of straw. The second division is sowed either with rye, beans, pease, or oats. The allowance is three bushels and an half of seed an acre. He gathers from this eighty sheaves an acre, which yield annually at least five coombs of grain and forty bundles of straw. The third division remains fallow. *Kliyogg* has also some enclosures which he sows every year. These are manured twice in three years, which he is peculiarly careful never to neglect; constantly varying the grain every time.

"His computation for ploughing is, a complete day's labour for two men and four oxen for each acre.

"Pursuant to the custom of the country, he gives to the first division three ploughings; namely, in the spring, before the month of May, immediately after hay season, and at the

* "Spelt, a kind of bastard wheat, which, in a good soil, becomes genuine."

† "Four bushels."

‡ "The Zurich malter contains four muids. The muid is divided into four quarters, and, when pressed down, weighs about 125 pounds of the marc."

end of harvest. The second division, if it does not interfere with more material business, and can be accomplished without great inconvenience, is ploughed twice; namely, at the conclusion of harvest, and immediately before the seed-time. Light soils, says he, require to be lightly ploughed; and, on the contrary, heavy, clayey ground, should be ploughed very deep, that the fine fibres of the roots may insinuate themselves with ease among the particles of the broken clods; but in a light soil we must endeavour to preserve sufficient solidity for the roots to strike. Wheat shoots strongest when there is an interval between the time of ploughing and sowing. Barley is most vegetative when sowed immediately after the plough. Light lands are best for barley, but wheat thrives best on a stiff soil.

“Whoever is desirous of constantly plentiful crops, should be sensible how very essential it is frequently to vary the seed upon the same ground. Thus he is indefatigable in the search of new; and is so thoroughly convinced of the utility of this rule, that he affirms that there is an advantageous difference in the produce, if he buys seed at a village only four leagues distant from his own.”

After many similar details of *Kliyogg*’s mode of farming, we are made acquainted with some particulars in his moral and domestic conduct;—*Kliyogg*’s speculations on the duty of governors and public teachers—on the necessity, in the master of a family, of setting an example of industry and economy to his family and his neighbours—his system of tavern-keeping—his objections to New-Year and Christmas benefactions—his abolition of all distinctions in food, on festivals and common days—his abstinence from wine—his modes of cookery—his maxims of education—his management of a singing-school—and his general deportment. On all these heads we have before us the picture of a man possessing a naturally sound mind, and indued with a peculiar aptitude to derive wisdom from common observation and experience.

There next follows an account of the agricultural societies and projects in the Canton of Zurich, to which *Kliyogg*’s example and instructions gave rise, and some further particulars, chiefly in the form of answers to queries, respecting the conduct and opinions of our Rural Socrates. On all these subjects many curious and instructive quotations might be made, but we shall content ourselves with the following sample:

“I am next questioned as to the manner in which *Kliyogg* employs his long evenings in winter. Whether he reads; and

particularly whether he reads the bible, psalms, and catechism. Whether he is given to philosophical meditations. Whether the events, manners and customs of mankind, as also the occupations and amusements of other classes in life besides his own, interest him.

"To all this I answer plainly and simply in one word, *No.* The philosophy of Kliyogg is entirely bounded to that sphere in which Providence has placed him. Destined to be a husbandman, he thinks that his only vocation lies in cultivating his land, in supporting himself and family out of the produce of his labour, and in making this his true happiness (which is no other than content). In this all the faculties of his mind are employed. His lands are worked upon principles derived from his experience or his sagacity, and sometimes from the instructions of others. The use which he makes of the fruit of his industry rests upon grounds no less judicious; bounding itself to the nourishment of his body, and to the preservation, and, if possible, the increase of his health and strength. Every other employment of the produce of his fields, vines and cattle—every thing tending to delicacy or luxury—excites his indignation. In the abuses of the good things of this life, he sees the origin of poverty, fraud, and every vice. Hence his well-founded complaints against drunkenness and the dissolute merriment prevailing on feast days, and even during the week; and hence, above all, the scrupulous attention which he gives to the education of his children, and his anxiety to keep them out of the way of these recreations, though commonly regarded as innocent.

"I cannot avoid, upon this occasion, relating an anecdote concerning Kliyogg which passed in my own house. The celebrated M. de Meckel, of Basle, having seated himself for the purpose of drawing the portrait of my country friend, Kliyogg laughed at my having desired this, and lent himself to it purely out of friendship. 'It is not,' said he, 'that it costs me much to sit still, but I do not see to what good this tends: if you, however, perceive any, I consent very readily, for you know that I do not understand these matters.' M. Meckel could not cease to admire the heavenly sparks of fire which came from his eyes; a striking sign, to a physiognomist, of force of understanding, philanthropy, and inward content. But, in the midst of the operation, the characteristic traits of the countenance suddenly disappeared; the muscles were no longer rounded, the eyes became extinguished, and the face offered nothing but wrinkles. They had just given

the melancholy signal for the approaching execution of an unfortunate woman, who had destroyed the unhappy fruit of her illicit passions. ‘Gracious heaven!’ said he, ‘to what purpose is it to behead this miserable creature? (who, it seems, was from his neighbourhood.) The evil ought to have been stifled in its origin: the first errors of this girl should have been prevented, when she was seen abandoning herself to idleness, frequenting ale-houses on feast days, and giving herself up to corrupting diversions. It is then that authority ought to have interfered, and shown its severity. It is now too late; and the cruel spectacle which is about to take place will be without effect, *as long as youth are permitted to consider the first steps towards vice as innocent amusements.*’— These impressions in Kliyogg are the result of his never having quitted the circle of occupations which concern his station in life; and his being accustomed never to think of any thing of which he ought not to think, nor to do any thing but that which it was his duty to do, at the moment.

“The bible, then, is the only book which he reads, and this always in the manner which I have formerly mentioned. I have some reason to doubt whether he has even read my publication respecting himself. He was more inclined to deride, than to applaud, the pains I had taken; of which he could not perceive the use, never having been in a situation to consider the influence of science upon the happiness of men. One of his brothers, who had for a number of years been a soldier in Holland, was very fond of reading, and had formed a tolerable collection of books in geography; as also of mystical works, for which he was a very great enthusiast. Having passed the latter years of his life with our philosopher, Kliyogg, without the help of erudition, had made him perceive the absurdity of the doctrines of these mystics. But the children of Kliyogg sometimes looked into the books of their uncle, in which they found accounts of the manners, arts, and way of living of different nations, which flattered their curiosity. Our philosopher found that they sometimes stole away from their work, or returned to it later than usual; in short, that they directed their thoughts to distant objects, which injured their attention to what was before them. This reading, therefore, appeared to him as weeds in the mind, which it was proper to root out. He therefore made his children sensible of it; begged of his brother to lock up his poison; and, as this worthy veteran died soon after of a consumption, sold the whole collection, without delay, at a low price. ‘This ridiculous trash,’

said he, ‘ was near spoiling all my children: the pick-axe, the plough, and the pitch-fork, these are the books which they ought to have in hand.’ We may judge, from this, how distant Kliyogg is from all sort of erudition.”

We can readily excuse the little method which appears in this collection, for the sake of the uncommon value of the materials of which it consists. There are very few of its numerous pages, especially in the latter part of the work, which do not contain some memorable or instructive display of a great and meritorious, though simple and unpolished character; and we earnestly recommend the volume to the attention of every lover of mankind, as well as to every husbandman and farmer.

The supplement contains some very curious anecdotes respecting two patriarchal families—one in Auvergne, and the other in Lorrain. We shall conclude these remarks by quoting the first of these accounts, the authenticity of which does not seem liable to question:

“ At some leagues distance from the town of Thiers, in Auvergne, is a very habitable castle, the seat of a small barony, called Saudon. About four hundred years since it was purchased by a numerous family of peasants, in whose possession it has continued hereditary to this day. This family obtained, at the same time, a perpetual dispensation from the pope to marry within certain degrees where marriages are otherwise deemed unlawful. Such a mark of consideration is a proof of the virtuous regulations that then subsisted amongst these honest people; and likewise of their apprehensions of relaxing their discipline and manners, should they marry out of their own family.

“ They have a tradition which carries their origin much higher; namely, that, eleven hundred years ago, one of their ancestors, a man of great wealth, the father of a numerous progeny, and advanced in years, gave his children to understand—‘ That their way of living must be greatly diminished, if, after his death, they should, as was customary, divide his fortune into separate portions; and that, if they were desirous to be wiser than the generality of men, they must live in the same united state as under his parental roof.’ They did not fail to raise many objections to this proposal; and the most weighty one was, the privation of an authority such as he had exercised, and which his superior wisdom rendered so respectable. He had foreseen and guarded against all the difficulties they feared; and replied, that good institutions, firmly

adhered to, would defend them from all inconveniences capable of frustrating their scheme. The father composed a *code* for the use of his children, which they most cordially accepted, and ever since have religiously observed.

" By these laws the whole *parental* authority devolves to a *general assembly* of the family. This assembly discusses their various interests, applies remedies to their grievances, and decides what measures are most eligible. A man is not admitted to these deliberations till he is *twenty years* of age. The assembly appoints a president to take care of the money, to sign resolutions, and to conduct affairs in general; but he is restrained to the disposal of ten pistoles, beyond which sum the assembly must determine.

" They never require of the president an account of his administration; nor have they ever repented this singular confidence. Their great maxim, and the foundation of all their rules, is an implicit reverence for their own family, which is instilled in infancy. This principle is characterized in many anecdotes. Their second maxim is never to soar above their original rank. Thus the Pignous, which is the family name, have never varied from other peasants in the articles of dress, food and lodging. They are called by their christian name. The president alone has the title of Mr. They call him Master Pignou. All follow the plough with their labourers.

" The children are educated in common, without any distinction, by a woman intrusted with the care of them to a certain age. She has also the superintendance of the dairy, and of the servants belonging to it.

" The family rules extend to domestics, who are to be present at morning and evening prayers, and to be regular in the practice of all christian duties.

" If any of the younger branches of the family happen to detach themselves from it, they receive a proper dividend of the public money. It generally happens that these repent, and are desirous to return; but this is a hopeless wish, and against the rules of the society, which allows no re-admission to those who once abandon it. Notwithstanding a great decrease by sickness, for some years past, there yet remain eight heads of families.

" The Pignous make the most laudable use of wealth. They are charitable to the poor, and hospitable to strangers: they are beloved, respected and admired. Many noble families, as well as those of peasants, have unsuccessfully attempted to imitate their rule of life. The former have turned the

scheme into parties of pleasure, and the latter have found it impracticable to arrive at that point of union and prosperity which distinguishes the family of Pignou. Undoubtedly none of these have laid the same permanent foundation for the happiness they were in search of, in piety, benevolence, disinterestedness, simplicity, and attachment to business; qualities without which it is impossible to form a happy society, or procure peace and competence.

“ Several intendants of the province have gratified their curiosity in visiting the Pignous. M. le Blanc, since Secretary at War, dined at the castle, was honourably entertained, and insisted on Master Pignou’s presiding at table. Delighted with their manners and customs, he made a recital of them to Louis XIV. Some time after, Master Pignou being obliged to go to Paris on various business, he paid his compliments to M. le Blanc, who presented him to the king. Louis asked him several questions, and was so charmed with his replies, that he ordered that the tax of the Pignous should never exceed six hundred livres, and made him a present to defray the expenses of his journey.

“ The Pignous, proprietors of Saudon, about half a league from Thiers, in Auvergne, have lived there near three hundred years. Their common estate brings in more than two hundred thousand francs; consisting of meadows, vineyards, arable land, and other heritages. But they have no lordships or manors, excepting the fief of Saudon, which is of small value.

“ This family has branched into four divisions, who live together within the same buildings. There are never more nor less; for they keep in the family only those who are designed to intermarry, and succeed their parents; whilst the rest of the children are settled in the adjacent villages, with a fortune of £21 17s. 6d. The daughters have also a chest of linen, and some household furniture of small value, such as peasants require; the Pignous not being, in outward appearance, different from their labourers.

“ The master is the only man amongst them who wears leatheren shoes. The women wear them because they never work in the field. There is particular care bestowed on the education of these. They are maintained in a convent, at the general expense, till they are of an age to become settled. If it happens that one branch of the family has only a daughter, who is consequently heiress to one fourth part of the estate, they marry her to the son of another branch, to keep up the number of their chiefs.

"They take care early to impress their children with such a respect for their family, and for its institutions, that there has never been an instance of any of the chiefs entertaining the most distant idea of separating from the community; nor of any of the sons or daughters, who have left the castle, desiring any addition to their fortune, small as it is. About forty years ago, the widow of one of their chiefs, who had an only daughter, was solicited to marry some gentleman herself, as a means of establishing her daughter in a manner suitable to her large fortune. This worthy woman answered in her provincial dialect, that she never could consent to put such an indignity on the family and customs of the Pignous!"

"Though property is equally divided amongst the four chiefs, the principal authority rests with the master, who is chosen from the other chiefs.

"The castle is large, but the apartments are furnished in the most plain and humble manner. M. de la Granville, who was travelling that way, stopped at Master Pignou's. Some of his company were for advising the master to furnish at least one apartment elegantly, as a mark of distinction; but the intendant, wiser than they, demonstrated to them that simplicity was essential to such an establishment; and that, when once they made a distinction in apartments, it would soon be followed by other innovations, which would interrupt the happiness of this little republic.

"The Pignou family are remarkably bountiful to poor travellers, who are cordially received, fed, and even lodged, if they chance to be benighted. They also receive well all visitors, providing the best entertainment in their power, according to their rank; which makes them exceedingly honoured and esteemed in the province: and what Master Pignou decides, in any controversy, passes, in general, with the peasants, for an infallible decree.

"We should accuse ourselves if we neglected to recommend to observation these solid effects of economy and order: such as the plenty it procures, the concord it maintains, the tranquillity it bestows! By its influence labour is softened, jealousy extinguished, equality restored! What extraordinary blessings may we not hope from it, in intelligent and enlightened persons, united upon the same principles; productive of so much good even amongst simple peasants! What an accession of opulence and strength to a state, to have a collection of these small republics formed within itself! A manly and sublime simplicity would succeed to effeminate

Luxury: moderation, the daughter of industry, would treasure the riches thus acquired; and mankind would at last be convinced, that the most infallible means to defy poverty is to renounce opulence, and to fly from the immoderate use of what we possess. Children, educated in these maxims, would renew that purity of manners, of which the loss is more to be regretted every day; whilst the earth, cultivated by their innocent hands, would no longer disappoint chimerical expectations by its sterility. Surely we have better motives than the terrible consequences of a revolution, to bring us back to nature!"

ARTICLE XI.

Six Introductory Lectures to Courses of Lectures upon the Institutes and Practice of Medicine, delivered in the University of Pennsylvania. By Benjamin Rush, M. D., Professor of Medicine in the said University. 8vo. pp. 168. Philadelphia. Conrad & Co. 1801.

THE author of these Lectures has been so long and honourably known to the public, that it is scarcely necessary to detain our readers by any observations on the excellence of his character. As a writer, teacher and practitioner of medicine, he has stood for many years among the foremost in the United States. It gives us pleasure to find him still active and indefatigable as ever in pursuit of the objects which form the leading business of his life, and in which the good of his country and his own reputation have been so happily blended. The present publication not only affords proof of undiminished zeal as a teacher, but inspires us with the hope that Dr. R. in the more extended range of usefulness which an author possesses, will hereafter confer many more additional benefits on the public.

The first Lecture treats of the necessary connection between observation and reasoning in medicine. On this subject he discusses the question, which has been so much agitated, of the comparative merits of empiricism and dogmatism, or of experience and reasoning in conducting the practice of physic. He equally objects to each when separately employed, and proves that they lead alike to error and mischief, unless they be allowed to lend their assistance to one another. He sub-

joins a syllabus of his course of lectures upon physiology, pathology, therapeutics, and the practice of medicine, by which it will be seen upon what a comprehensive scale his system of instruction is presented to his pupils.

In the second Lecture our author undertakes to develope the illustrious character of Dr. Sydenham, whom he considers in the two-fold quality of a *physician* and a *man*. As a physician Dr. R. does ample justice to the originality, boldness, vigour and independence of his mind; to the depth of his penetration, and the solidity of his judgment; to his observations on the effects of peculiar climates and seasons; to his singular accuracy in exhibiting the history and symptoms of diseases; to his discovery of the laws which govern the rise, progress, and succession of epidemics; to the simplicity and efficacy of the remedies which he selected; and to the truth of many of his theories of diseases. In considering Dr. Sydenham as a *man*, our author dwells, with much interest, on the purity of his morals; his humanity, sympathy and benevolence; his candour, liberality and gentleness of manners; his superiority to the temptations of wealth and fame; and, finally, his piety and devotion.

The subject of the third Lecture is an exhibition of "the causes of death in diseases that are not incurable." The author considers, 1st. Those causes which are derived from physicians: 2d. Those which arise from the conduct of sick people: and, 3d. Those which arise from the conduct of their attendants and visitors. The disclosure which this Lecture affords, of the ignorance, negligence, prejudices, follies and vices of the several descriptions of persons referred to, and of the fatal consequences which too often ensue, is not less important than melancholy.

Lecture fourth treats of "the influence of physical causes in promoting an increase of the strength and activity of the intellectual faculties of man." Many interesting facts and observations are delivered, under this head, relative to the mental effects of aliment, drinks, opium, tobacco, different positions of body, dress, weakness, disease, pain, sleep, certain sounds, a certain temperature of the air, rural and mountainous situations, residence in cities, silence and solitude, darkness and blindness, particular studies and amusements, variety of studies, the exercise of composition, the passions, the will, conversation, politics, religion, association, &c. As a specimen of the author's manner of exhibiting this subject, we shall quote his remarks on the effects of politics and re-

igion in imparting strength and activity to the intellectual faculties:

"The exercise of the intellectual faculties upon *certain* specific subjects imparts strength and activity to them. These subjects are *Politics* and *Religion*. I have elsewhere taken notice of the effects of liberty in producing the greatest quantity of animal life. It promotes the same increase of the quantity of mind. The pre-eminence of the Greeks and Romans in intellect, over all the ancient nations in the world, was derived chiefly from the popular form of their governments. In monarchies, the birth or death of a prince, the sickness of a king, and the events of a war, are the principal objects that, by awakening the attention of a whole nation, infuse vigour into the public mind. But in republics, the same vigour is produced every two or three years by general elections. These important seasons, in which heaven renews one of the dividing lines between man and the brute creation, interest every feeling of the heart. They stimulate the passions, which afterwards act upon the understanding, and impart to it a force, which prevents its relapsing into the repose of public apathy during the intervals of a general suffrage. From a strict attention to the state of mind in this country, before the year 1774, and at the present time, I am satisfied the ratio of intellect is as twenty are to one, and of knowledge, as an hundred are to one, in these States, compared with what they were before the American revolution.

"The sublime and various objects of religion are calculated to expand the human intellects to their utmost limits, and to impart to them a facility of action. We read, that the face of Moses shone when he descended from conversing with his Maker upon Mount Sinai. The contemplation of the divine character and perfections never fails to produce a similar splendour in the human mind.

"But further:—It is a fact worthy of notice, that the most enlightened parts of the world, in general and useful science, are those in which the doctrines of the Christian religion are taught and believed. Its effect, in preparing the mind for the attainment of human knowledge, is happily described by Mosheim, in his Ecclesiastical History, in the following words: 'The reception of christianity,' says our author, 'polished and civilized, in an extraordinary manner, the rugged minds of the valiant Normans: for those fierce warriors, who, under the darkness of paganism, had manifested the utmost aversion to all branches of knowledge, and every

kind of instruction, distinguished themselves, *after* their conversion, by their ardent application to religion and the pursuit of learning."

In the fifth Lecture we find a very instructive and interesting view of "the vices and virtues of physicians." If the dark side of this picture be so drawn as to fill our minds with disgust and abhorrence, the fair side is well adapted to excite the glow of emulation, and that pure and noble admiration of virtue, which forms one of the strongest incentives to virtuous actions.

The sixth and last Lecture is devoted to an exhibition of "the causes which have retarded the progress of medicine, and the means of promoting its certainty and greater usefulness." In treating this subject the author displays much penetration, learning and judgment; and, in general, we perfectly agree with him as to the causes which retard the improvement of medicine, and the means of accelerating its future progress. We cannot entirely subscribe to his opinions, when he attributes so much mischief to the connecting with medicine certain branches of knowledge which have but a slender relation to it. Let him speak for himself on this subject:

"In no one of the acts of man do we behold more weakness and error than in our present modes of education. We teach our sons words at the expense of things. We teach them what was done two thousand years ago, and conceal from them what is doing every day. We instruct them in the heathen mythology, but neglect to teach them the principles of the religion of their country. We teach them to predict eclipses, and the return of comets, from which no physical advantages worth-naming have ever been derived; but we give them no instruction in the signs which precede general and individual diseases. How long shall the human mind bend beneath the usages of ancient and barbarous times? When shall we cease to be mere scholars, and become wise philosophers, well-informed citizens, and useful men?"

We are ready to admit that there is much truth in these observations; but we cannot go so far with the author as to believe that the bringing a mind stored with various learning to the study of medicine, or the occasional blending of other literary and scientific pursuits with medical researches and practice, can generally impede the acquirements and usefulness of a physician. We are much more apprehensive of the indolence and apathy which decline all investigation, than of the

eager and varied curiosity which impels the mind to multiply the objects of research, and sometimes hurries it too precipitately from one object to another. And we are confident, that where one example is to be found of a physician's mind being led astray by the diversity of his literary and scientific disquisitions, an hundred may be observed of intellects sunk in sloth and indifference, or degraded by a sordidness which contemplates nothing but the gains of the profession.

ARTICLE XII.

Political Essays, relative to the War of the French Revolution, viz. an Argument against continuing the War for the Subversion of the Republican Government of France; a Letter to the Duke of Portland, being an Answer to the two Letters of the late Right Hon. Edmund Burke against treating for Peace with the French Republic; and a Memorial, proposing a Plan for the Conquest and Emancipation of Spanish America, by Means which would promote the Tranquillity of Ireland. By James Workman, Esq. 12mo. pp. 174. Alexandria. Cottom & Stewart. 1801.

THE subjects of this publication are sufficiently explained in the title-page. The essays were originally published in London, and appear to have attracted as much notice from critics and politicians as most of the contemporary publications on similar subjects. The lapse of five or six years, however, has considerably lessened the interest with which such works commend themselves to our attention. The war, against the continuance of which there are here some ingenious arguments, is now at an end. The plan of an invasion of the Spanish colonies by an Irish army, the general pacification of Europe has rendered no longer practicable. But though these essays have lost much of that interest which they possessed at the period of their publication; and though, even then, they were of much less importance to Americans than to Englishmen; yet, as the lucubrations of a vigorous mind, relative to the state of Europe during the height of the late war, they cannot fail to obtain our notice. They are a pretty copious display of the reasonings of that part of the British nation who were adverse to hostilities with France—who considered the war, in the part of Britain, as founded on injustice and

impolicy—and who maintained that the public good required as speedy a termination of it as possible. We think it needless to enter into any examination of the author's arguments, and merely recommend it to our readers as a well-written and skilful defence of one side of a great national question.

ARTICLE XIII.

A Discourse, delivered on the Annual Fast in Massachusetts, April 9th, 1801. By Nathanael Emmons, D. D. Pastor of the Church in Franklin. The second edition. 8vo. pp. 37. New-York. C. Davis. 1801.

REVIEWERS, from the variety of matter which comes before them, are often placed in situations of difficulty and embarrassment. The community, for whose benefit they profess to labour, is generally divided into factions, irritated by the impressions of injuries mutually inflicted and suffered, and little inclined to listen to the suggestions of liberal and conciliating considerations. Political dissensions are eminently of this description. After a long series of collisions, political parties become so habitually and systematically hostile, that the one cannot perceive in the movements of the other any thing but mischief and sinister purposes. How far this is the necessary result of free government, it is not our present business to inquire. How far it might be moderated and diminished by a union of the exertions of the wise and virtuous in the respective parties, has never yet, perhaps, been put to a fair experiment.

It would be foreign to our views and inclinations to launch ourselves upon the tempestuous ocean of politics. It is our object to cultivate elegant letters, sound learning, and useful science; and, by all the means in our power, to promote the interests of morality and religion. Happily, these topics may generally be discussed in this country without animosity or intemperance.

Convinced, as we are, that a great mass of wisdom, talents, honour, integrity and patriotism, belongs to each of the two political parties which now divide the United States, we wish, in our quality of Reviewers, to treat them both with deference, and to steer as exactly as possible between them,

To embrace the system of either would only serve to narrow the field of our usefulness, and to mingle with the pursuits of literature passions and feelings which ought for ever to be kept separate.

Many persons have supposed, that in a former number of our Review (p. 89) we deviated from our usual impartiality in surveying the political questions which agitate the community. Many others, it is probable, will imagine we equally depart from that impartiality in our consideration of the present article. We are also aware that the warm partizans of either side may accuse us of inconsistency; but while each of us reserves to himself, in the most explicit terms, that system of political faith, and that attachment to men and measures, which conviction had previously impressed on his mind, we think that every liberal and candid reader will be inclined to acquit us of the charge, and rather give us credit for attaining so near to the difficult point of impartial criticism. We shall, however, increase our exertions to maintain that strict neutrality in party politics which we think the cause of literature requires.

With this declaration, we proceed to the examination of the pamphlet before us.

This discourse, prepared for the solemnity of an annual fast in the State of Massachusetts, is founded upon the following text: 2 Kings xvii. 21. *And they made Jeroboam the Son of Nebat King, and Jeroboam drove Israel from following the Lord.*

Few characters recorded in holy writ are distinguished by such traits of profligacy and wickedness as that of Jeroboam; and none were punished, in themselves and their posterity, with more signal marks of divine displeasure. Dr. Emmons takes great pains to represent his conduct in all the extent of its turpitude and deformity. In doing this he is faithful to the scriptural accounts of the crimes and enormities of this atrocious monarch.

The subject is distributed under the following heads:—
I. *To draw the character of Jeroboam before he was king.*
II. *To represent the state of the nation when they made him king.*
III. *To inquire how it came to pass that they did make him king.*
IV. *To show what methods he employed, after they had made him king, to drive them from following the Lord.*

After this exhibition of the character of Jeroboam, loaded with crimes and guilt, infamous throughout all generations, and

signally marked by the vengeance of heaven, Dr. E. proceeds to the improvement of the subject, and in this makes application of the character of Jeroboam to the President of the United States; which undoubtedly forms the leading object of the discourse. To remove all doubt of this application, let the author speak for himself:

"Never before was there a greater contrast between two rulers in succession, than between Jeroboam the son of Nebat, who drove Israel from following the Lord, and his great and illustrious PREDECESSOR. It seems God intended, by this contrast, to make the house of Israel deeply sensible of the pre-eminent virtues and services of Solomon; and, by recording this contrast, he undoubtedly meant to teach future nations properly to appreciate those who govern them in wisdom and integrity. Let us all learn this lesson, and especially those who have complained of the late wise and gentle administration of government. It is more than possible that our nation may find themselves in the hand of a Jeroboam, who will drive them from following the Lord; and whenever they do, they will rue the day, and detest the folly, delusion and intrigue that raised him to the head of the United States."

And again he declares—"Our present situation resembles the situation of Israel in the days of Jeroboam."

Many other passages might be selected, if, after these, any doubt of the author's design could remain in the mind of the reader.

Will it not be deemed indecent thus to assail the character of the First Magistrate of the United States, elected to that elevated station by an unquestionable majority of the people, and according to the forms enjoined by the constitution? And it is especially remarkable that this discourse was delivered on the 9th of April, little more than a month after Mr. Jefferson's accession to the presidency, and, we believe, before any removals from office, or other proceedings which have been censured by his political opponents.

As Dr. E. is pleased to fasten the character of Jeroboam on our Chief Magistrate, let us inquire what opinion foreigners, yielding to this impression, and unacquainted with the actual condition of the United States, would form of the state of this country. In the President they would expect to find a prodigy of wickedness and depravity, a Jeroboam of the western hemisphere, who had usurped his high station by fraud and violence, without colour of law; who had trampled on the constitution and liberties of his country; who had kindled the flames of

civil war among the States; who had violated the altars of religion, persecuted and banished the ministers of the gospel, and who had committed every other outrage which could designate a tyrant and an enemy to human happiness. We leave every reader to judge of the foundation for such impressions, and to decide how far they bear application to a country, peaceful, tranquil, prosperous and happy beyond any other on the globe; where the principles of civil and religious liberty flourish in the greatest vigour, and where "*every man sits under his own vine, and under his own fig-tree, without any one to make him afraid.*"

To endeavour, by any kind of publication, to excite the hatred and contempt of the people against the Chief Magistrate, cannot be deemed consistent with the duties of a good citizen. It is certainly the interest of the community, including every distinction of party, and embracing every change of men and measures, to treat those who are constitutionally set in authority over them, with decent outward respect. Every friend of order, tranquillity, and obedience to the laws, will be sensible, that to act otherwise, tends not only to exasperate the animosities of party, but to injure national morale and decorum, and to impair the legitimate energy and dignity of government.

We read with surprise the following assertion: "And even now there are some in power who begin to frown upon those ministers who dare to speak against their bold and impious exertions to break the bands of religion and morality, and open the door to universal licentiousness."—We know of no facts to justify this declaration. The latitude of the expression, "some in power," is cautious and indefinite. Some petty officer, in some remote part of the union, may indeed have been guilty of this enormity. No government can insure universal good behaviour in its subordinate agents. But to make a charge thus indefinite, with a view of exciting the public resentment against the persons "in power," is neither ingenuous nor just.

The charge of atheism in our rulers, is frequently hinted at by Dr. E. but nowhere positively or specifically asserted. We observe no trait of artfulness or ability in the structure of this discourse more striking than the manner in which the author conveys this insinuation, and repeats it; without, however, subjecting himself, in the least degree, to the obligation of producing his proof. We do not hesitate to acknowledge the wariness and prudence of this kind of reserve; the candour of it seems more liable to question.

ARTICLE XIV.

A Sermon, delivered before the General Convention of the Protestant Episcopal Church in the United States of America, in St. Michael's Church, Trenton, New-Jersey, on Friday, September 11, 1801, on the Occasion of the Meeting of the said Convention, and of the Consecration of the Right Rev. Bishop Moore, of New-York. By the Right Rev. William White, D. D. Bishop of the Protestant Episcopal Church in the State of Pennsylvania. 8vo. pp. 29. New-York. T. & J. Swords. 1801.

THE Right Rev. Dr. PROVOOST, who has been, from the first establishment of an American Episcopate, Bishop of the Protestant Episcopal Church in the State of New-York, lately applied to the General Convention of his Church for leave, on account of ill health, and other considerations, to resign his office: and in order to supply the vacancy which was expected to ensue, in case the Convention should agree to accept the resignation proposed, the Rev. Dr. MOORE, Rector of Trinity Church in the city of New-York, was unanimously elected, by the Convention of this State, to fill the place of Dr. Provoost. When the proposal of this gentleman to resign was laid before the General Convention, that body determined that such a step was inconsistent with ecclesiastical order, with the practice of Episcopal churches in all ages, and with the tenor of the office of consecration; and, therefore, that they would not accept the resignation intended. Nevertheless, in order to provide for the exigencies of the church in the State of New-York, the Convention agreed to consecrate the Rev. Dr. Moore as "assistant, or coadjutor Bishop," during Bishop Provoost's life; declaring, at the same time, that he was to be considered as completely clothed with the episcopal character, and as competent to all its duties. Upon this principle, and in this character, Dr. Moore was accordingly consecrated on the 11th of September last; and it was on the occasion of this solemnity that the sermon before us was delivered.

The Bishop chose, as the subject of discourse, John iv. 35. *Say not ye, There are yet four months, and then cometh harvest? Behold, I say unto you, Lift up your eyes, and*

Look on the fields; for they are white already to harvest. He thinks that this passage has a respect to the diffusion of the gospel, and the establishment of the Christian Church. Upon this principle, the plan of his discourse is,

"I. To lay open the ground on which our Saviour predicted the success of the ensuing preaching of his gospel.

"II. To exhibit the encouragement which ministers of the gospel have at this day, to expect an happy issue of their labours, in the same blessed work. And,

"III. To apply to the state of the church what is said on both these heads, in respect to the influence they should have on doctrine, on discipline, and on morals."

In discussing these several heads, the Bishop expresses a belief, that the glorious extension and triumph of the gospel, though slow, and apparently opposed by many unfavourable occurrences, is sure, and at no great distance; that, preparatory to the general reign of the Messiah, the dominion by which the Mahometan imposture has been supported, will cease, and the Roman power, in its seventh and last head, be overthrown; that the *Beast*, in the books of *Daniel* and the *Revelation*, is descriptive of the papal power; that events now occurring in the world are preparing the way for the destruction of all anti-christian establishments, and the building up of Zion; that christian doctrine is intended to have a most important influence on the future condition of mankind, and therefore should be maintained in purity, and defended against all opposition and corrupt mixture; that christian discipline should be diligently supported; and that the holy life and conversation of evangelical teachers is of the utmost moment to the honour of religion, and the advancement of the Mediator's kingdom.

Though it will readily occur to our readers, that some of the opinions above stated are disputable points, and very different ideas have actually been entertained with respect to them; yet all will be pleased with the modesty, the mildness, and the christian charity with which the Bishop delivers his sentiments. And although the views of certain prophecies which he gives will not be found new, yet neither will any remark, in his mode of explaining these parts of scripture, any of that spirit of wild and presumptuous enthusiasm which has been too often suffered to intrude into investigations of this nature. He treads on prophetic ground with the cautious steps of one who, though not profoundly versed in the subject, has yet sufficient acquaintance with it to know with

how much ease the unwary traveller may be bewildered and lost.

While we express our approbation of the good sense, the seriousness, and the amiable and christian temper which pervade this discourse, we cannot help observing, as on a former occasion, concerning a production of the same author (see the *Monthly Magazine and American Review*, vol. ii. p. 127), that his style has considerable faults: it is diffuse, circuitous, and consequently obscure. A more simple, precise, and perspicuous manner, would have rendered the discourse more valuable: as it is, it will, we trust, be read with pleasure and profit by serious christians.

ARTICLE XV.

A Pastoral Letter to the Members of the Protestant Episcopal Church in the State of New-York. By Benjamin Moore, D.D. 8vo. pp. 16. New-York. T. & J. Swords. 1801.

BISHOP MOORE, a few weeks after entering on the Episcopal office, to which, on the occasion mentioned in the preceding article, he was consecrated in September last, thought proper to address the members of his church, on certain topics, which he considered of high importance to their welfare. This prompt and zealous attention, to what he viewed as a duty belonging to his station, is worthy of praise, and will be received with respect by every serious reader.

In this *Letter*, the Bishop, with a solemnity and earnestness becoming his character, exhorts those who are under his pastoral care, to guard against the spirit, the arts and the delusive errors of infidelity; to attend with sincerity and seriousness on the various means of instruction and grace; to have the important ordinance of baptism administered without delay to their children; to regard, with due reverence, the “apostolic rite of confirmation;” to bestow the utmost diligence and pains on the education of their children, and on the moral and religious interests of all committed to their care; to observe, with devout attention, the christian sabbath; and, on the whole, to give weight and influence to religion, by their personal exertions, and by the purity of their example. These

duties are urged in a style of great simplicity and plainness, and with a dignity and unaffected zeal which afford us the highest pleasure.

Bishop M. seems, in one passage (p. 13), to lament, that the government of our country has declined giving any direct encouragement to the ministers of the gospel, and to the maintenance of religion. On this subject there is much difference of opinion; yet all will agree with the worthy author in believing, that as govermental aid is not given to religion, its individual friends should be the more engaged to yield it all that support which is in their power, and should feel more deeply the importance of their private exertions in its favour.

ARTICLE XVI.

Moreland Vale, or the Fair Fugitive. By a Lady of the State of New-York, Author of Henry Villars. 12mo. pp. 184. New-York. S. Campbell. 1801.

A TITLE-PAGE which informs us that the volume is *by a lady*, disarms criticism of its severity, and insures the most favourable reception *the nature of the case will admit of*. We should have been pleased to take notice of this little novel in the mildest terms, were it not that indulgence might possibly be construed into encouragement, and induce the writer to devote that time to increase the number of useless books on the shelves of our circulating libraries, which might better be employed in *household affairs*.

Moreland Vale is a story framed with little art, destitute of incident, and tending to no purpose.

ARTICLE XVII.

An Oration, delivered in the Dutch Church, in the City of Schenectady, on the 4th July, 1801, before a crowded Audience. By Gideon Starr. 8vo. pp. 14. Albany. C. R. and G. Webster. 1801.

THE deceased author, who produced this oration at the age of twenty, has left by it no unfavourable specimen of juvenile ability.

ARTICLE XVIII.

A Discourse, delivered in the Presbyterian Church, in Albany, the 4th of July, A. D. 1801, at the Celebration of the twenty-fifth Anniversary of American Independence.
By Eliphalet Nott, A.M. 8vo. pp. 26. Albany. C. R. & G. Webster. 1801.

OUR deliverance," says the author, "from foreign domination, may be *not inaptly* compared to the deliverance of Israel from Egyptian bondage; and if we consider the previous difficulties through which we have been carried—our present happy and dignified situation—and the means by which we have been exalted to it, we cannot fail to see, in several particulars, a *striking analogy* between our own history and the history of the Jews."—To delineate this analogy is the principal business of Mr. Nott's sermon. As the author does not appear to be under the influence of fanaticism in his undertaking, his discourse should be regarded merely as the effusion of an ingenious, liberal and patriotic spirit. In his analogical views he confines himself to general parallels, and does not ramble in search of those minute and fanciful resemblances which the visionary is apt to pursue to excess.

ARTICLE XIX.

An Address, delivered to the Students of Kingston Academy, in the Presence of the Trustees, and a Number of other Gentlemen, and published at their Request. By the Rev. D. B. Warren. 12mo. pp. 20. Kingston, Ulster County. Freer. 1801.

THIS address to the students of Kingston Academy has so few claims to publication, that we may be surprised that the author should yield to the solicitations of his friends to give it to the world.—For the sake of the seminary over which he presides, we hope that his judgment is more correct than his style. We presume, indeed, that it is so; and that his pupils may be profited by his instruction as a teacher, though not benefited by his example as a writer.

ARTICLE XX

An Oration, delivered at New-Haven, on the 7th July, 1801, before the Society of the Cincinnati for the State of Connecticut, assembled to celebrate the Anniversary of American Independence. By Theodore Dwight, Esq. 8vo. pp. 43. Hartford. Hudson & Goodwin. 1801.

WITHOUT detaining his audience by a detail of the events of the late war, or by reflections on the revolution, Mr. D. adverts to the situation and prospects of the United States at the late change in the administration of government. While he forbears to comment on the proceedings of the ascendant party, he exhorts federal men to wait patiently the result of the measures of the new administration, trusting, as he does, that if driven into opposition, they will not degrade themselves or their cause by a sullen, indecorous and indiscriminate opposition. He recommends to them to learn from their political adversaries the advantages of “a spirit of union, vigilance and activity.”

Mr. D. expresses his belief, that it is in New-England, and especially in Connecticut, that the cause of federal-republicanism and just government will find its surest support, its last resource. And it seems to be the chief object of his address to vindicate “the government, institutions, and steady habits,” moral and religious, of the people of that part of our country, against the open and secret assaults of their political enemies. They have exhibited, he remarks, “the only instance in the history of nations, of a government *purely republican*, which has stood the test of experience for more than a century and an half, with firmness enough to withstand the shocks of faction and revolution.”

He then proceeds to give a sketch of the government, and moral and religious institutions of Connecticut, and of their benign effects on the character and manners of society. It would be gratifying to us to extract this most interesting and instructive portion of the oration, but our limits will not permit us to do so. It is a pleasing picture of a long course of political tranquillity and happiness. Mr. D. regards any attempt to eradicate the virtuous habits, or to subvert the

wise and salutary institutions he has described, with abhorrence and indignation. Accordingly, he speaks on the subject with much warmth of feeling; and, to show that his apprehension of such a design is not imaginary or delusive, he quotes various pamphlets, gazettes, &c. published by the opposite party, in various parts of the United States. How far such publications justify the fears of Mr. D. it is not our province to determine.

He next depicts the character and objects of what he terms jacobinism, as drawn from history, and from certain political writings, particularly the "Enquiry concerning Political Justice," by Mr. GODWIN. The most extravagant and pernicious doctrines, contained in the last mentioned work, and their practical consequences to society, are exhibited in striking and alarming colours, sufficient to excite the aversion and horror of the reader.

Copious notes, and various references, are subjoined, to elucidate and confirm the observations and assertions made in this address.

The eloquence of Mr. D. is energetic, easy and flowing; and he every where expresses himself with great clearness and force of language.

ARTICLE XXI.

Clarke's Seaman's Desiderata: or concise Practical Rules for computing the apparent Time at Sea, the Latitude from double Solar Altitudes, and the Longitude from the Lunar Observations: with a simple and expeditious Method of clearing the Lunar Distances from the Effects of Parallax and Refraction. With Additions and Corrections by J. G. 4to. pp. 48. with Tables, &c. New-Brunswick (N.J.) Blauvelt. 1801.

IT is known to every body, that a simple, easy, and expeditious mode of finding the longitude at sea, has been, and still remains, an interesting problem to all commercial and civilized nations. Every thing, therefore, which appears to be calculated to improve our knowledge on this subject, will meet a welcome reception from the public.

Among the different modes of ascertaining the longitude, that by lunar observations seems to be the most eligible. It

is found difficult, however, to reduce this computation to the level of popular use. In the observation of lunar distances, it must be remembered that such distances are only apparent; being in some cases greater, and in others less, than the true distance. This circumstance is caused by refraction and parallax, which more or less affect the apparent place of the moon, in common with other heavenly bodies, unless it be in the zenith of the observer. It becomes necessary to obviate and correct the errors arising from this source. But the operation to produce this correction is justly considered as one of the most intricate of all those which are incidental to nautical practice; and the apprehension of this intricacy often deters intelligent seamen from the attempt to avail themselves of this mode of determining the longitude.

To simplify and shorten this operation, so as to bring it within the reach of ordinary comprehension, and thereby to adapt it to common use, will be considered as a great desideratum in nautical affairs. Complicated and tedious calculations suit not the condition of a mariner at sea. The active and laborious life which he is condemned to lead, the hardships and difficulties which surround him, and the dangers which threaten him, all combine to restrict him, in his computations, to what is brief, simple and familiar. And though the most rigid accuracy cannot always be attained by such means, if the methods possessing these advantages prove sufficiently correct for the practical purposes of navigation, they must, in point of utility, deserve a preference to more complicated processes.

The method recommended by our author to obtain a correction of the effects of refraction and parallax in the observation of lunar distances, is chiefly by a simple linear projection, of two lines only, sufficiently accurate for all the purposes of navigation; particularly if the observed altitudes be within the usual limits with respect to the horizon and the zenith. The reason of this concise operation will not, indeed, be intelligible to such as are not well versed in mathematical science; being founded in the nature of stereographics, and the increments of variable spheric triangles. The author states, in the following words, the facility arising from his proposed improvement:

"The business, therefore, of finding the longitude at sea by the lunar distances, is, by this means, rendered so easy, that, in conjunction with that excellent and indispensably necessary performance, the Nautical Almanac, with its proper

appendage, the Requisite Tables, the whole process may be perfectly comprehended, in one single hour, by any man who can keep a common day's reckoning at sea.

" Those who wish for greater precision than this construction affords, must have recourse to pure computation in correcting the lunar distances; for which purpose they will find the *formula* here given not only new, but exceedingly concise, requiring only three logarithms in the whole operation; and it has also the advantage of perfect accuracy, being derived directly from the principles of spherics—having the three sides of a triangle given (the observed distance, and the two co-altitudes, or zenith distances) to find the vertical angle; and from thence, and the corrected co-altitudes, or sides, to determine the base, or true distance required."

It is understood that this new and improved form of the work before us is from the pen of Mr. GARNETT, of New-Brunswick, in New-Jersey. The zeal and abilities with which that gentleman exerts himself to apply the principles of science to the improvement of the arts, and to every useful purpose, are well known to the public, and will recommend the perusal of this performance to all who feel themselves interested in the success of such laudable exertions.

LITERARY JOURNAL.

INTELLIGENCE.

*Experiments, Facts and Observations in Natural History,
made in the Autumn of 1801, by Dr. Mitchill.*

1. EXPERIMENTS AND OBSERVATIONS ON THE BLACKNESS OF BODIES.

AS I was making some experiments the other day with a small thermometer upon bodies of different colours, exposed to the rays of the sun, then shining very bright, I was struck with an appearance I had not so particularly noticed before on the surface of *black* bodies. As my thermometer was lying on the black hair-cloth bottom of a mahogany chair, near the window, in the sunshine, I observed the white light or sunbeam, so refracted as to exhibit the prismatic colours, and reflected, after refraction, plainly to the eye, while those parts of

the cloth which were not so brightly illuminated, or which were not exposed to the direct rays of the sun, appeared of the ordinary black colour. On moving these black or feebly illuminated parts of the hair-cloth into the sunshine, they likewise reflected prismatic colours; and, on withdrawing them into the shade, the light was refracted and reflected too feebly to be distinguished into colours, and they returned to their former blackness. The quick-silver of the thermometer, lying on the hair-cloth which so refracted the sun-beams, and reflected their prismatic colours, had risen to a height many degrees above the temperature of the parts on which, by reason of feeble refraction in the shade, no colours were distinguishable by my eyes.

Here, then, was a confirmation of the common experiment of heat accumulated in *black* bodies exposed to the solar radiance. And there was more than that: There was evidence plainly submitted to my sense of seeing, that a certain black body did not absorb the white or undecomposed rays of light, but did decompose them in a considerable degree, and reflect coloured light of all the iridescent hues to the organ of vision.

To know how far this quality of black horse-hair corresponded with other black substances, I exposed *black silk* to the sunshine, and saw the prismatic colours plainly on its filaments. I then examined the *black bristles* of swine, and beheld a similar reflection of colours from their surfaces. Afterwards a *black dyed* hat was exposed to the rays, and rainbow colours were reflected from the sides of the *fur* and *hairs*. Also *black leather* boots, and a *black paper* snuff-box, were iridescent in the sunshine. The like was observable of *black varnish*, the polished surface of which, in the sunshine, was prismatic too. *Black wool* and *woollen cloth*, subjected to the light in the same manner, gave a like result. A *black ink-stand* and a *seal*, of *Wedgwood's earthen-ware*, decomposed the sun-beam, and reflected rainbow colours too; and these, like the rest, when removed beyond the limits of distinct vision, affected the eye with a sensation of *uniform blackness*.

What, then, is this *black*, which the Newtonians teach to be a negation or privation of all colour? Why, truly, a very different state of things indeed. So far is a black body from being the absence of all colour, that its peculiar complexion depends upon its being a co-existence of all the rainbow colours. These had undergone refraction on innumerable points, angles or roughnesses of an almost infinite smallness. There-

fore, these coloured rays being too small, or possessing individually too little of the matter of light to be vivid, and being too much confused with other colours to be seen distinctly, make up, by their joint operation, the *mixture of colours* which is called black. All coloured bodies possess the power of refracting light in a certain degree, and of reflecting some or other of its hues: and, of all bodies with which we are acquainted, those which are denominated black affect this separation of colours in the most complete manner, by a more minute and exquisite subdivision, and a more scattered and mingled reflection than other bodies present.

White has been defined, by the natural philosophers, to be the presence of all colours, and *black* their absence. It would be much more correct to say, *white is the reflection of solar rays in their compound or undivided state; while black is the reflection of the same rays after an almost infinitely small resolution or decomposition*: Or, *white* is the absence of all distinct and sensible colours, and *black* is the presence of all: Or, again, *white* is the effect of *heterogeneous*, and *black* of *homogeneous* light.

2. REMARKABLE SERPENT (BOA CONSTRICCTOR) KILLED ON LONG-ISLAND.

On the 28th of September, 1801, a serpent, of a species unknown to the people of the neighbourhood, was killed in a swamp at Islip, in Suffolk County, New-York. They had no vulgar name for it. Its length was seven feet and four inches, and its thickness proportional, being around the swell about the size of a man's wrist. It was on the belly and sides of a yellowish or straw colour. On the back were thirty-six black spots, reaching in a row from the head to the tail; and on each side of this row, approaching the belly, were many other blackish or dark brown spots. These gave it a speckled appearance, and there were no stripes. It had no fangs or biting-teeth to pierce the bodies of its enemies, and insert poison; and, therefore, was not venomous. In the lower part of the mouth there was a considerable fleshy portion like a tongue, which terminated in a long bicuspidated projection. The jaws were furnished with hooks or hammated teeth, in the manner common to snakes. It had scuta both on the *belly and tail*; and these amounted to about *three hundred*. From these characters, it appeared to me, when I examined the serpent soon after it was killed, to belong to the genus of *BOA*. The number of the scuta so exactly

corresponds with the species termed CONSTRUCTOR, that the *bva constrictor* may be enumerated among the American serpents. This is the creature which is said to grow in India to the length of thirty feet and more, and to crush animals to death by twining around them; though in the United States it is not yet known to grow to so large a size.

3. BEAUTIFUL SPECIES OF SOLANUM FOR FLOWER GARDENS.

Several species of the numerous family of solanum are already in the gardens and green-houses. To say nothing of the common nightshade and potatoe, it may be remarked, that the *egg-plant*, the *Jerusalem Cherry*, and the *bitter-sweet*, have attracted no small share of attention. The species which are cultivated for the purposes of taste and ornament are valued not for the beauty of the blossom (for the flowers of the solanum are not remarkable for their gaiety), but for the agreeable habit and aspect of the whole plant, or for the singularity of its fruit. The mature pericarpium of some of the species bursts open, and gives an appearance quite as handsome as petals, pistils, and stamens, and greatly more singular and durable. The *solanum dulcamara*, about the time it drops its leaves in October, opens the high *orange-coloured* trivalvular capsules of its berries; and these retracting, disclose the scarlet trilocular pulp in which the seeds are enclosed. And clusters of these smooth disparted berries, dependant from their *green* foot-stalks, have been employed to make a fine and showy appearance on chimney-pieces, among dried flowers, during the whole winter.

But there is a more beautiful species than this, growing not in the form of a vine or scandent plant, but of a delicate little shrub. Its bark is green, its twigs slender and flexible, its leaves dark green, and much like those of the Jerusalem cherry. In its wild state it grows from three to five or six feet high. It was discovered in a swamp in North-Hempstead, on October 16, 1801, in full maturity. The shrub is perennial, and bears, like other indigenous vegetables, the rigour of the seasons. Its greatest peculiarity is its seed-vessel. The leaves grow in pairs on the stems; and from the axilla, on each side of the stem, a foot-stalk arises, supporting a single fructification. This foot-stalk, which is green at its origin, turns of a reddish purple about half an inch before its connection with the capsule. This is of a beautiful *crimson* colour, rough on its outside, and split into five equal divisions. Between the sides

of these separated portions, *two purple* webs or membranes are extended like curtains. These were formerly the two internal parts of the loculaments enclosing the seeds; but now, on the expansion of the capsule, and the receding of the apices of its portions further and wider apart, they are drawn from their former central situation, and with them the seeds, which are turned completely out of their original places. But the seeds, though thus removed, do not drop off. On the contrary, they remain attached by their umbilicus to a portion of the membrane, and adhere to it with firmness enough to be handled, and carried from place to place. They are five in number, very smooth and glossy, of the size of small pease, and of the brightest orange, scarlet, or high yellowish red colour, and seem to hang from the extremities of the five points of the divided capsule.

The appearance of these *scarlet* seeds depending from their *purple* membrane, near the extremities of the *crimson* capsule, is very singular and uncommonly beautiful, especially as these gay colours are so finely contrasted with the different shades of *green* in the bark and leaves.

This elegant shrub ought to be introduced into ornamental grounds and gardens without delay.

4. THE GLOW-WORM (CICINDELA.)

This insect (for it is such, though called a worm) is a native of Long-Island. It appeared in great numbers in September and October, 1801, in moist pasture land, beside fences and beneath locust-trees. Their light was on the tail or posterior extremity of the body, like that of the *fire-fly* or *lightning-bug* (*lampyris*). At times, seemingly at the option of the animal, it was kindled up to remarkable brightness. On some of the fine evenings of October, the appearance of these *glow-worms*, laying thick among the grass as we walked over it, was as that of fiery coals, and made a brilliant exhibition as they bespangled the ground.—The animal neither stings nor bites—seems very innocent, and may be handled with safety. It is apterous, is near an inch long, and much resembles the *millepedes* in shape. [Med. Rep.

GYPSUM DISCOVERED IN NEW-JERSEY.

There has lately been discovered on the plantation of Mr. James Hunt, near Newtown, Sussex County, New-Jersey, a bed or mine of plaster of Paris, which is found to be of a good quality, and in great quantity.

ENUMERATION of PERSONS in the several Districts of the UNITED STATES,

Names of Districts.									
Southern.									
Middle.									
Eastern.									
Massachusetts	-	-	-	-	-	-	-	-	
Maine	-	-	-	-	-	-	-	-	
Connecticut	-	-	-	-	-	-	-	-	
Vermont	-	-	-	-	-	-	-	-	
Rhode-Island	-	-	-	-	-	-	-	-	
New-York	-	-	-	-	-	-	-	-	
New-Jersey	-	-	-	-	-	-	-	-	
Eastern District of Pennsylvania									
Western District of Pennsylvania									
Delaware									
Maryland									
Eastern District of Virginia									
Western District of Virginia									
North-Carolina									
South-Carolina									
Georgia									
Kentucky									
Territory North-West of the River Ohio									
Indian Territory									
Mississippi Territory									
741,349,533,849	383,422	422,994	257,560	694,178,312	554,391,844	397,192	43,295	107,665	875,690
9,362	3,647	4,666	4,833	1,9,55	8,644	3,353	3,542	1,395	45,362
854	347	645	269	791	280	424	393	115	5,641
999	356	492	780	953	376	352	426	165	8,851

NOTE.—The population of Tennessee, not included in the above, is estimated at 100,000.
Whole population of the Eastern States is 1,939,511. Slaves 1,338.
Whole population of the Middle States is 1,399,544. Slaves 34,752.
Whole population of the Southern States is 2,540,257. Slaves \$10,536.

Total population of the United States in 1790, 3,929,396.
Increase in ten years 1,342,986.

DEARBORN'S PATENT STEELYARDS.

In Boston sixteen pieces of ordinance, one of which weighed 8000 pounds, were easily suspended and accurately weighed with Mr. Dearborn's patent steelyard; the whole apparatus of which is so compact, that two men with a hand-cart may transport it to any part of the town. In the ordinary mode of weighing with *scales*, a great number of weights would have been necessary to be twice handled, and the scale-beams could hardly be made strong enough to sustain so great a weight. This improved instrument promises to be of great use in facilitating the weighing of articles of great weight.

New Publications, and Works preparing for the Press.

A SYNOPSIS of *Chemical Nomenclature and Arrangement*, containing several important alterations of the plan originally reported by the French Academicians, with an *Explanation* of the Synopsis, by SAMUEL L. MITCHILL, M. D. &c. Professor of Chemistry, &c. has just been published by F. & J. SWORDS, in a very neat octavo pamphlet.

Mr. THOMAS DOBSON, of Philadelphia, has just published, a second edition of *Bell's Surgery*, abridged, with notes, by N. B. WATERS, M.D.

Mr. SAMUEL CAMPBELL has lately published, a new edition of GORDON's *History of the American Revolution*, in three volumes octavo.

H. CARITAT has just published, from the London edition, *A Practical Treatise, or Compendium of the Law of Marine Insurance*, by JOHN ILDERTON BURN, of the Inner Temple; one vol. 12mo. price one dollar. In this *compendium*, the cases decided are concisely stated, with the judgment of the court, so that all the principles of the law of insurance, and the decisions of the English courts which are diffused over the voluminous publications of PARK and other writers on this branch of law, are here brought into a narrow compass. The *appendix* contains some cases recently decided, not comprised in the last edition of PARK. This volume appears to have been compiled with considerable judgment, and will be found an useful *manual* for merchants and insurers, as well as a book of convenient reference for the practising lawyer.

Mr. LONGWORTH has just published his *American Lady and Gentleman's Pocket Almanac and Belles Lettres Repository* for 1802, in an improved style. Besides all the *Fables of Flora*, this elegant little volume contains a very pleasing and judicious selection of *Poetry*, from the most celebrated poets of the present day, and is embellished with a number of handsome engravings from the London edition of the *Fables of Flora*.

T. & J. SWORDS, P. A. MESIER, and W. A. DAVIS, have just published, in two neat duodecimo volumes, *Memoirs of the late Mrs. Robinson*, written by herself.

Messrs. B. & J. LORING, booksellers of Boston, have just published, *Maps of Massachusetts Proper, and District of Maine*, compiled by Mr. OSGOOD CARLETON, from actual surveys made by order of the General Court; revised and corrected by the Rev. Dr. MORSE and Professor WEBBER, agents appointed by the Court for that purpose, and engraved and published under the inspection and direction of said agents, and approved by the Legislature.

Mr. FRY, of Philadelphia, has republished, *The Armenian*, from the German of SCHILLER by RENDER.

Mr. JAMES HUMPHREYS, of Philadelphia, has republished *Leonard and Gertrude*, a Romance, translated from the German.

A second edition of *The Powers of Genius*, by the Rev. JOHN BLAIR LINN, with some additional poems, will shortly be published by Messrs. CONRAD and Co. of Philadelphia.

The Poor Gentleman, a new and celebrated Comedy, by GEORGE COLMAN, jun. is just republished by M. WARD and Co. of this city.

Mr. W. DURELL, of this city, has just published, *The Minstrel*, by BEATTIE.

Mr. C. DAVIS has just published a volume, entitled, *The Progress of the Pilgrim Good-Intent, in Jacobinical Times*.

Mr. G. F. HOPKINS, of this city, has issued proposals for publishing by subscription, in two handsome octavo volumes, *The Federalist on the new Constitution*, by *Publius*, written in 1788; to which is added, *Pacificus on the Proclamation of Neutrality*, written in 1793; the whole revised and corrected, with new passages and notes. Gen. HAMILTON is well known as the author of these essays.—The following are the remarks of the editor on the proposed edition.

"The Federalist was written in a series of numbers, under the signature of *Publius*, shortly after the promulgation of the

Federal Constitution, and addressed to the people of the State of New-York, with the design of enforcing the propriety and necessity of its adoption.

"It is principally the production of a man whose name will be held in sacred respect long after the pitiful attempts which have been made to slander his fame shall have sunk into oblivion. Two other gentlemen, of distinguished talents, occasionally contributed some essays, which will be marked in the publication.*

"All parties seem at length united in professions of regard for the constitution: if they are sincere, the consideration cannot fail to enhance the value of a work which, by employing in its favour all the energy of argument, and all the persuasion of eloquence, was eminently useful in promoting its general ratification.

"Whoever is desirous of being well informed of the principles and provisions of our government, and the manner in which they have been supported and vindicated; of the objections that were made to the constitution by its first opposers, and how they were answered, will find these volumes fraught with ample and satisfactory instruction. The study of them must form an essential part of the education of the American statesman. Politicians, indeed, of every country, will here discover materials in the science of government well worthy of their attention; a science, of all others, the most interesting to mankind, as it most deeply concerns human happiness.—The Federalist contains principles that may be remembered and studied with advantage by all classes of men in other countries than our own, and in other ages than that in which we live. The people of America alone have afforded the example of a pure representative republic. In this work, it will appear, that the principles of this form of government, have been well understood and thoroughly developed; and should, unfortunately, the experiment we have made hereafter fail, it will be in vain to attempt the renewal of similar systems, as no rational hope can be entertained, that more correct notions, on this subject, will prevail, than are here exhibited.

"To preserve these papers, therefore, which have so much intrinsic merit, and such lasting utility, in a dress suitable to their character, is the inducement to their re-publication.

"Pacificus is from the pen of the same enlightened statesman who was the chief author of the Federalist. These essays were

* Mr. Maddison and Mr. Jay.

written in defence of the first leading step which our government took, to preserve that neutrality which it continued to maintain during the late transatlantic conflict; a conflict which has annihilated the minor powers of Europe, and shaken the civilized world.

"Now the storm has passed over, and the angry and tumultuous passions which at that time agitated our country, have in some measure subsided, these papers will be read with profit and pleasure by the intelligent man of every party. Candour will probably wonder that any should have doubted of the fitness of the measures which this writer has so ably advocated, and which experience has so forcibly proved to have been the best adapted to the interests of the country.

"To give to these latter Essays a form which shall outlive the fleeting impression of a newspaper, they are incorporated in these volumes. Publius and Pacificus will serve to keep in just remembrance two very important events in the history of our country."

Messrs. MANNING and LORING, of Boston, are republishing *The Poems of William Cowper, Esq.* in two volumes.—They have just published *The Anatomist's Vade Mecum*, by ROBERT HOOPER, M. D. and *A Compendious Medical Dictionary*, by the same.

An Account of the State-Prison, or Penitentiary House in the City of New-York, by one of the Inspectors of the Prison, is now in the press of ISAAC COLLINS and SON, and will be published in the next month.

Mr. SAMUEL F. BRADFORD, of Philadelphia, has issued proposals for publishing by subscription, *A Historical Account of the most celebrated Voyages, Travels and Discoveries, from the Time of Columbus to the present Period*, in 20 vols. 12mo. embellished with sixty elegant engravings, by WILLIAM MAVOR, LL. D. This valuable, cheap, and compendious work, will be printed in a style superior to the London edition, and be delivered to subscribers at one dollar a volume. Dr. MAVOR is justly celebrated for his judgment and taste in the selection and compilation of books for the use of young persons.

Mr. BRADFORD is also publishing, in one volume, octavo, *A Common Place Book*, principally on the plan of Locke.

Messrs. CONRAD and Co. have in the press a new medical work, by WILLIAM BARNWELL, M. D. formerly Surgeon in the employ of the Hon. East-India Company, now of Philadelphia. It will comprise the following subjects: I. A speci-

men of physical geography, comprehending an investigation of the physical causes of heat and cold in various countries, and their alternate effects on the human body, from change of climate or seasons of the year. II. Sketches of medical topography, the causes of various local impregnations of the atmosphere from marsh miasmata, infectious effluvia, &c. III. The experimental philosophy of human life, of diseases, and remedies, applied to the healing art. IV. An analysis of modern medical surgery. V. The physical causes, the nature and treatment of the diseases most prevalent in warm climates and autumnal seasons. 1. Biliary affections and diseases of the liver, as obstructions and inflammations, and their consequences—abscess, scirrhus, dropsy and hypochondria. 2. Diseases of the first passages, as choleras, diarrhoeas and dysenteries—their natures and remedies, &c. 3. Fevers, such as intermittents and remittents, and their varieties; and continued fevers, as the typhus, or low nervous fever, and the pestilential or yellow fever.—It will be handsomely printed in one octavo volume, price two dollars in boards.

Mr. JAMES HUMPHREYS, of Philadelphia, has in the press, *Parkinson's Chemical Pocket-Book*, with an Appendix by JAMES WOODHOUSE, M. D.

Mr. JAMES HUMPHREYS and Mr. JOSEPH GROFF, of Philadelphia, have issued proposals for printing *An Analysis of the Game of Chess, by Mr. Philidor*.

Mr. E. DUYCKINCK has in the press, *Elements of Logic, by William Duncan*.

Mr. W. DURELL has issued proposals for printing *the whole Works of Dr. Isaac Watts*.

Mr. ANDREW FOWLER has issued proposals for printing *an Exposition of the Book of Common Prayer, and other Rites and Ceremonies of the Church, according to the Use of the Protestant Episcopal Church in the United States of America*.

Messrs. DUYCKINCK and FALCONER, of this city, have in the press, *Denman's Midwifery*, two volumes octavo.

The New-York Association of Booksellers have in the press, *Duncan's Cicero*. It will be printed page for page with the London edition.

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It would be particularly gratifying to the Editors, to be able, in the course of their publication, to give a list of all the authors who have appeared in America from the year 1770 to 1801, with a brief examination of the merits and contents of their several performances, so as to form a history of literature and knowledge in the United States. Should this intimation meet with attention from those who are best qualified to furnish the necessary information, and sufficient materials are collected for the purpose, this historical retrospect of American literature shall constitute an appendix to the subsequent volumes until it is completed.

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The Editor of the American Review, and his publishers, T. & J. Green, will be pleased to receive communications and proofs, to be inserted in their publication. All communications, however, must be seasonably forwarded, and with due attention.

Authors and publishers who do not forward their publications to the Editors, or to the publishers, must nevertheless consider themselves as intentionally neglecting the Review, if they are not noticed in the Review.

New York, January, 1822.

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